INVITATION TO BID

Issue Date: August 8, 2006 **Reference No:** 2006-74-FSPA

Title: Concrete Pavement Replacement Approaches to Scales **Commodity Code:** 913-27

Issuing Agency:

Commonwealth of Virginia
Department of Motor Vehicles
2300 West Broad Street
Richmond, Virginia 23220

Using Agency And/Or Location Where Work Will Be Performed:

Suffolk Motor Carrier Service Center
Rte. 58, 1.32 miles west of Chesapeake City Line

SEALED Bids Will Be Received Until 3:00 p.m. on September 14, 2006 For Furnishing The Services Described Herein, And Then Opened In Public at 3:00 p.m., September 15, 2006.

All Inquiries For Information Should Be Directed To: Michael G. Baxter, Director of Facilities: Phone: (804) 367-0048, Fax: (804) 367-6676, E-Mail: Michael.Baxter@Dmv.Virginia.Gov.

IF BIDS ARE MAILED, SEND DIRECTLY TO ISSUING AGENCY SHOWN ABOVE. IF BIDS ARE HAND DELIVERED, DELIVER TO: Department of Motor Vehicles, Facilities Services and Planning Administration, 2300 West Broad Street, Security Desk, Richmond, Virginia 23220.

In Compliance With This Invitation For Bids And To All The Conditions Imposed Therein, The Undersigned Offers And Agrees To Furnish The Services At The Price(s) Indicated In Attachment A, Schedule of Items.

Virginia Contractor License Number:_____

Name And Address Of Firm:

_____ Date: _____

_____ By: _____
Signature In Ink

_____Zip Code:_____ Name: _____
Print

FEI/FIN NO._____ Title: _____

Telephone Number:(____)_____ Cell Phone Number(____)_____

PROJECT SHOWING: A **Mandatory** Project Showing Will Be Held On **August 22, 2006 At 11:00 AM** at the DMV Suffolk Motor Carrier Service Center, Rte. 58, 1.32 miles west of the Chesapeake City Line.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

INDEX

This Contract shall be constructed in accordance with: the plans; the *Virginia Department of Transportation Road and Bridge Specifications*, dated 2002; and *Road and Bridge Standards*, dated February 1, 2001; the *Virginia Work Area Protection Manual,* dated May 2005; and Special Provisions and Special Provision Copied Notes as listed herein.

Special Provision Copied Notes are designated with (SPCN) after the date.

Note: The information enclosed in parenthesis at the left of each Special Provision Copied Note is for Department use and information only. The information in the upper left corner above the title of each Special Provision is for Department use and information only.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

Form C-118
Rev. 3-22-05

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MOTOR VEHICLES
NOTICE TO BIDDERS

As a matter of information, the bidder's attention is directed to the points noted herein. Every point enumerated below is fully covered by proposal documents that describe them in detail. Bidders should check their proposal against all requirements, as strict compliance with all provisions is mandatory.

1. Unless otherwise specified or permitted in the proposal, prices shall be submitted on all items shown in the proposal.

2. Proposals conditioned by proposed alternates, other than those specified or permitted, or by reserving the right to accept or reject an award or to enter into a contract pursuant to an award will not be considered.

3. A bid total shall be shown in each space provided.

4. Bid bonds shall conform to Section 103.07. The bid bond number shall be placed in the appropriate space in your electronic bid. As an alternative you may complete the bottom line of the Form C-24. This form may be mailed or faxed but must be received prior to the opening of the bids.

5. Joint venture proposals shall show the Firm Name of each party and shall be signed by an authorized representative of each Firm. A letter shall be filed with the prequalification office describing responsibility of each firm and the amount of maximum capacity pledge by each firm of a joint venture.

6. A **Mandatory** Project Showing Will Be Held On **August 22, 2006 At 11:00 AM** at the DMV Suffolk Motor Carrier Service Center, Rte. 58, 1.32 miles west of the Chesapeake City Line.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

Form C-24
Rev. 4-24-01

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MOTOR VEHICLES
PROPOSAL GUARANTY

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____ as principal, and _____ Surety, are held and firmly bound unto the Commonwealth of Virginia as obligee, in the amount of FIVE PERCENT OF THE DOLLAR VALUE OF THE BID, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

SIGNED, sealed and dated this _____ day of _____, 20 ____

WHEREAS, the above said principal is herewith submitting its proposal for:
PROJECT NUMBER: 2006-74-FSPA

NOW, THEREFORE, the condition of the above obligee is such, that if the aforesaid principal shall be awarded the contract upon said proposal and shall within the time specified in the Specifications after the notice of such award enter into a contract and give bond for the faithful performance of the contract, then this obligation shall be null and void; otherwise to remain in full force and effect and the principal and surety will pay unto the obligee the difference in money between the amount of the bid of the said principal and the amount for which the obligee may legally contract with another party to perform the said work if the latter amount be in excess of the former; but in no event shall the liability exceed the penal sum hereof.

_____ (Principal*)	_____ (Surety Company)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Attorney-in-Fact**) (Seal)
_____ (Principal*)	_____ (Address)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Surety Company)
_____ (Principal*)	_____ (Attorney-in-Fact**) (Seal)
By: _____ (Officer, Partner or Owner) (Seal)	By: _____ (Address)

*Note: If the principal is a *joint venture*, each party thereof must be named and execution made by same hereon. If there is more than one surety to the bid bond, each surety must be named and execution shall be made by same hereon.

Electronic Bid Only: In lieu of completing the above section of the Contract Performance Bond, the Principal shall file an Electronic Bid Bond when bidding electronically. By signing below the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the Commonwealth of Virginia under the same conditions of the bid bond as shown above.

_____ Electronic Bid Bond ID	_____ Company/Bidder Name	_____ Signature and Title

**Attach copy of Power of Attorney

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

Form C-61
Rev. 7-1-98

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MOTOR VEHICLES
POTENTIAL MBE PARTICIPATION

INSTRUCTIONS: The successful bidder shall return this form within 14 days after the opening of the bids.

Project No: 2006-74-FSPA

MBE Participation Achievement	Percent of Total Bid	Percent of Total Bid That Bidder Will Attain or Exceed
Minority-Owned	0%	_____
Female-Owned	0%	_____

Name and Certification No. of Minority Owned Firm(s) To Be Used	List Item Nos. and Description of Work For Each Item	Amount of Allowable Credit Per Item
1.		
2.		
3.		
4.		
	TOTAL:	

Name and Certification No. of Female Owned Firm(s) To Be Used	List Item Nos. And Description of Work For Each Item	Amount of Allowable Credit Per Item
	TOTAL	

I/We certify that the proposed MBEs submitted will be used on this contract as stated hereon and assure that during the life of the contract, I/We will meet or exceed the participation established hereon by my/our firm.

Bidder _____ Signature _____

Title _____ Date _____

NOTE: This form shall serve as a notice of intent only, and is submitted solely for informational purposes. The information included thereon shall not be construed as either a contractual commitment or a condition of award.

Form C-48
12-8-04

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MOTOR VEHICLES

SUBCONTRACTOR/SUPPLIER SOLICITATION AND UTILIZATION FORM (ALL BIDDERS)

PROJECT NO.: 2006-74-FSPA CONTRACT ID. NO.: M558SKL74263

FHWA NO: NONE DATE SUBMITTED_____

All bidders, including DBEs bidding as Prime Contractors, shall complete and submit the following information as requested in this form within ten (10) calendar days after the opening of bids.

The bidder certifies this form accurately represents its solicitation and utilization or non-utilization, as indicated, of the firms listed below for performance of work on this contract. The bidder also certifies he/she has had direct contact with the named firms regarding participation on this project.

BIDDER_____SIGNATURE_____

TITLE_____

SUBCONTRACTOR/SUPPLIER SOLICITATION AND UTILIZATION (ALL)

VENDOR NUMBER	NAME OF SUBCONTRACTOR/SUPPLIER	TELEPHONE NUMBER	DBE OR NON-DBE	UTILIZED (Y/N)

NOTE: ATTACH ADDITIONAL PAGES, IF NECESSARY.

BIDDER MUST SIGN EACH ADDITIONAL SHEET TO CERTIFY ITS CONTENT AND COMPLETION OF FORM.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

Form C-7
Rev. 7-28-05
SHEET
1 of 4

TERMS OF THE PROPOSAL\CONTRACT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF MOTOR VEHICLES

DATE SUBMITTED: _____

PROJECT NUMBER: 2006-74-FSPA
ROUTE NUMBER: 13/58/460
FHWA NUMBER: NONE

DESCRIPTION: CONCRETE PAVEMENT REPLACEMENT APPROACHES TO SCALES
FROM: EAST BOUND CONCRETE APPROACHES
TO: WEST BOUND CONCRETE APPROACHES

DISTRICT: HAMPTON ROADS COUNTY: CITY OF SUFFOLK

I/we declare that no other person, firm or corporation is interested in this proposal; that I/we have carefully examined the plans, job specifications, current Road and Bridge Specifications, and all other documents pertaining thereto and thoroughly understand the contents thereof; that I/we meet the prequalification requirements for bidding on this proposal; that I/we understand that the plans and current Road and Bridge specifications are a part of this proposal; that all of the quantities shown herewith are a part of this proposal; that all the quantities shown herewith are approximate only; that I/we have examined the location of the proposed work and source of supply of materials; and that I/we agree to bind myself/ourselves upon award of the Commonwealth Transportation Board under this proposal to a contract with necessary surety bond to start work within 15 days of notification of the contract execution or as excepted by other contract language permitted by project specifications, and to complete all work in accordance with the plans, job specifications and current Road and Bridge Specifications within the time limit set forth in the contract.

DATE:_____

BID TOTAL $_____

Attached is a bond conforming to the requirements of the current Road and Bridge Specifications, it being understood that such bond is to be forfeited as liquidated damages if, upon acceptance of the terms of this proposal, I/we fail to execute the contract and furnish bond as provided in the current Road and Bridge Specifications.

_____ BY: _____
(Names of Individual(S),Firm(S) Or Corporation) Signature/Title

_____ _____
Street Address City State Zip Code Vendor#/Fin#

_____ BY: _____
(Names of Individual(S),Firm(S) Or Corporation) Signature/Title

_____ _____
Street Address City State Zip Code Vendor#/Fin#

In consideration of the commitments made as shown herein, the Commonwealth of Virginia by The Commonwealth Transportation Commissioner agrees to pay for all items of work performed and materials furnished at the unit price(s) and under the conditions set forth in this proposal, in witnessed by the affixing of the name below.

Contract Execution/ Notice to Proceed Date _____ By _____

CHIEF ENGINEER
VIRGINIA DEPARTMENT OF TRANSPORTATION

(**c100a**0b-0702) **LABOR** Contact may be made in advance of starting date with the Job Service Office of the Virginia Employment Commission at a location near you to secure referral of available qualified workers in all occupational categories. The closest office near you may be the office listed below:

8-1-91, Reissued 7-9-02 (SPCN)

SUFFOLK P.O. Box 1650 Suffolk, Va 23439 (757) 925-2376

(**c100d**1b-1105) **VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM)** – All work shall be accomplished in accordance with the requirements of the 2005 edition of the VWAPM and all revisions, regardless if the plans or other language in the Contract indicates any earlier edition.

5-25-05 (SPCN)

(**c101a**4b-0805) **SECTION 101.02—TERMS** of the Specifications is amended to replace the definition of "Engineer" and "Notice to Proceed" with the following terms:

Engineer. The Chief Engineer, as designated by the Commissioner of the Virginia Department of Transportation, who acts directly or through his duly authorized representative(s) and who is responsible for highway design, construction, and maintenance. The Engineer, or his representative(s), acts within the scope of the particular duties assigned to him or the authority given to him by the Virginia Department of Transportation Commissioner, these Specifications, supplemental specifications, and the Contract documents.

Notice to Proceed. The date of contract execution.

And to add the following definition:

Affiliate. Any business entity which is closely associated to another business entity so that one has the power to control the other either directly or indirectly; or, where one business entity systematically shares resources, officers and/or other management with another business entity to the extent that a business relationship legally exists or is publicly perceived to exist; or, when a third party has the power to control both; or, where one business entity has been so closely allied with another through an established course of dealings, including but not limited to the lending of financial wherewithal or engaging in joint ventures, so as to cause a public perception that the two firms are one entity.

7-28-05 (SPCN)

(**c102c**0b-0702) **SECTION 102.01 PREQUALIFICATION OF BIDDERS** of the Specifications is amended to replace the tenth paragraph with the following:

In the event the Contractor chooses not to submit a progress schedule, as provided in this Contract, the Contractor's progress will be determined on a straight line basis by comparing the percent of time used to the percent of work completed. When the percent of time used exceeds the percent of work completed by more than 10 percent at the time of the monthly progress estimate, notification may be given that, if the next monthly progress estimate shows more than a 10 percent delinquency, the Contractor may be removed from the list of prequalified bidders unless he can establish that such delinquency is due to conditions beyond his control. If removed, the Contractor will not be reinstated as a prequalified bidder until his progress has improved to where, in the judgment of the Department, the work can be completed within the contract time or the project is satisfactorily completed.

8-1-91, Reissued 7-9-02 (SPCN)

(**c102f**1b-0706) **SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS** of the Specifications is amended as follows:

Section 102.01—Prequalification Of Bidders is amended to replace the last paragraph with the following:

All bidders shall return Form No. C-48 listing all subcontractors/suppliers that were solicited to supply quotes for work on this project within 10 calendar days after the date designated in the proposal for the opening of bids. This form shall show the vendor numbers, legal names of subcontractors/suppliers, whether DBE or non-DBE, and utilization or non-utilization for work on this project.

Section 102.03—Interpretation Of Quantities In Proposal is amended to replace the last paragraph with the following:

The bidder shall acknowledge receipt of all revisions to the contract documents issued prior to receipt of bid by inserting the appropriate Revision Letter date(s) as part of his electronic bid submission. Failure by the bidder to acknowledge the Revision Letter date(s) with his bid when applicable will result in the bidder being considered non-responsive and the bid being rejected.

Section 102.07—Proposal Guaranty is amended to replace the first sentence of the first paragraph with the following:

A bid in excess of $250,000.00 will not be accepted or considered unless accompanied by a guaranty in the form of a bid bond made payable to the Treasurer of Virginia.

Section 102.08(a) Disqualification Of Bidder is revised to replace the second paragraph with the following:

affiliate as used herein shall conform to the definition in Section 101.02 Terms.

5-22-06 (SPCN)

(**c103c**2b-0706) **SECTION 103—AWARD AND EXECUTION OF CONTRACTS** of the Specifications is amended as follows:

Section 103.02—Award of Contract is amended to replace the last sentence of the paragraph with the following:

> If the Board, or the Commissioner; where permitted by law, has not awarded the Contract within this period, the bidder may withdraw his bid without penalty or prejudice unless the time limit is extended by mutual consent.

Section 103.03—Cancellation of Award is replaced by the following:

> The Board, or the Commissioner; where permitted by law, may cancel the award of any contract at any time before the execution of the contract by all parties without liability to the State.

Section 103.04—Return of Proposal Guaranty is amended to replace the last sentence of first paragraph with the following:

> When the Contractor withdraws his bid prior to award, after being the low bidder, the bid bond will be forfeited in accordance with the requirements of Section 2.2-4336 of the *Code of Virginia*.

Section 103.05—Requirements of Contract Bond is amended to replace the first sentence of first paragraph with the following:

> Within 15 calendar days after notification, the successful bidder shall furnish the following bonds for contracts in excess of $250,000:

And to replace the second paragraph with the following:

> Bidders will not be awarded an unbonded contract when their bid plus the balance of other unbonded contracts exceed $250,000.00 or if their current Ability Factor is less than 8.0, as determined by their prequalification status.

Section 103.07—Execution and Approval of Contract is replaced with the following:

> **SECTION 103.07—EXECUTION AND CONTRACT AUDIT**
>
> (a) **Submittal and Execution of Contract:** The bid as submitted by the Contractor, including the documents specified in Section 103.06(a) of the Specifications shall constitute the Contract upon submittal of the contract bond, contract bodily injury and property damage liability insurance certificate, and workers' compensation insurance certificate and the final execution by the Department. If the Contract is not awarded within the time limit specified in Section 103.02 of the Specifications, the bidder may withdraw his bid without penalty or prejudice. No Contract shall be considered effective until it has been fully executed by all parties.
>
> (b) **Contract Audit:** The Contractor shall permit the Department to audit, examine, and copy all documents, computerized records, electronic mail, or other records of the Contractor during the life of the contract and for a period of not less than five years after date of final payment, or date Contractor is declared in default of Contract, or date of termination of the Contract.

1. The documents and records shall include, but not be limited to those that were used to prepare and compute the bid, prepare all schedules used on the project, record the progress of work on the project, accounting records, purchasing records, personnel payments or records necessary to determine employee credentials, vendor payments and written policies and procedures used to record, compute and analyze all costs incurred on the project, including those used in the preparation or presentation of claims to the Department.

2. Records pertaining to the project as the Department may deem necessary in order to permit adequate evaluation and verification of Contractor's compliance with contract requirements, compliance with the Department's business policies, and compliance with provisions for pricing work orders or claims submitted by the Contractor or the Contractor's subcontractors, insurance agents, surety bond agents and material suppliers shall be made available to the auditor(s) at the Department's request. The Contractor shall make his personnel available for interviews when requested by the Department.

3. Upon request, the Contractor shall provide the Department with data files on data disks, or other suitable alternative computer data exchange format. Data furnished by the Contractor that cannot be verified will be subject to a complete audit by the Department.

The Contractor shall ensure that the requirements of this provision are made applicable to his subcontractors, insurance agents, surety bond agents and material suppliers. The Contractor shall cooperate and shall cause all related parties to furnish or make available in an expeditious manner all such information, materials, and data. The Contractor shall be forthcoming in disclosing all sources and locations of media.

The Contractor shall provide immediate access to records for the audit and provide immediate acceptable facilities for the audit. Failure on the part of the Contractor to afford the Department immediate access or proper facilities for the audit will be considered failure to cooperate and will result in disqualification as a bidder in accordance with Section 102.08 of the Specifications.

Upon completion of the contract audit, any adjustments or payments as a result of the audit shall be made within 60 days from presentation of the Department's findings to the Contractor. Failure to make payment may result in disqualification as a bidder in accordance with Section 102.08 of the Specifications.

If the Contractor disagrees with the findings of the Department, the Contractor may appeal the decision in accordance with Section 105.16 of the Specifications or Section 33.1-386 of the *Code of Virginia* as applicable.

5-22-06 (SPCN)

(**c105c**0b-0702) **SECTION 105.04 FURNISHING AND ERECTING PRECAST STRUCTURES** of the Specifications is amended to include the following:

Precast units, excluding concrete pipe, prestressed concrete items and soundwalls, conforming to the requirements herein will only be accepted under a Quality Control/Quality Acceptance Program (QC/QA). The Contractor shall have the producer perform quality control functions in accordance with a Department approved QC/QA plan. Each piece, manufactured under the QC/QA program, in addition to the date and other required markings, shall be stamped with the letters (QC), as evidence that the required QC/QA procedures have been performed. Each shipping document shall be affixed with the following:

We certify that these materials have been tested and conform to VDOT Precast Concrete Products Quality Assurance Program

_____
Signature and Title

9-15-95, Reissued 7-9-02 (SPCN)

SECTION 105.05(c) COORDINATION OF PLANS, STANDARD DRAWINGS, SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, SPECIAL PROVISIONS, AND SPECIAL PROVISION COPIED NOTES of the Specifications is amended to add the following:

Sketches, drawings, notes and other written information used in No Plan and Minimum Plan contracts that are not included in a special provision or special provision copied note will have the same status as plans.

11-28-05 (SPCN)

(**c105f**0b-0705) **SECTION 105 - CONTROL OF WORK** of the Specifications is amended as follows:

Section 105.06-Cooperation Of Contractor is amended to replace the first paragraph with the following:

The Contractor will be supplied with two copies of the executed Contract. The Department's *Road and Bridge Specifications* and the Department's *Road and Bridge Standards* will be available for purchase by the Contractor from the office of the Contract Engineer.

Section 105.16 Submission And Disposition Of Claims is amended to replace the last sentence of the fifth paragraph with the following:

If the Commissioner deems that all or any portion of a claim is valid, he shall have the authority to negotiate a settlement with the Contractor subject to the provisions of Section 2.2-514 of the Code of Virginia as amended.

And to add the following:

The Contractor shall submit a certification with the notice of claim using the following format:

Pursuant to Virginia Code § 18.2-498.4, I hereby certify that this contract claim submission for Virginia Department of Transportation Project 2006-74-FSPA in

_____ County, Virginia is a true and accurate representation of additional costs and/or delays incurred by (name of Contractor) in the performance of the required contract work. Any statements made, and known to be false, shall be considered a violation of the Virginia Governmental Frauds Act, punishable as allowed by the Virginia Code for a Class 6 Felony.

(Company)

By:

As officer or duly appointed agent of (Company)

Title:

Date:

State Of:

City/County of _____, To-Wit:

I, the undersigned, a Notary Public in and for the City/ County and State aforesaid, do hereby certify that _____, whose name is signed to the foregoing instrument, bearing date of the_____ day of _____, 200_, has this day acknowledged the same before me in my City/ County and State aforesaid.

Given under my hand this ____ day of _____, 200_.

Notary Public:

My commission expires:

Claims submitted during the statutory period for submitting contract claims and submitted without the certification described above shall be returned to the Contractor. The Contractor shall be informed in writing that the submission was incomplete.

10-29-04c (SPCN)

(**c108d**0s-0702) **SECTION 108.01 SUBCONTRACTING** of the Specifications is amended to replace the first paragraph with the following:

No portion of the Contract shall be subcontracted or otherwise disposed of without the written consent of the Engineer, except for work that is $25,000 or less per subcontractor, not to exceed a cumulative total of 10 percent of the original contract value. This will not, however, waive the requirements for prequalification, and will be considered part of the percentage the Contractor is allowed to subcontract. The Contractor shall notify the Engineer of the name of the firm to whom the work will be subcontracted, and the amount and items of work involved. Such notification shall be made and verbal approval given by the Engineer prior to the subcontractor beginning work.

4-12-99, Reissued 7-9-02 (SPCN)

(**c108f**0b-1203) **CONTRACTOR EQUIPMENT LIST** – The Contractor shall provide the Engineer a list of all equipment to be used on the contract. The make, model, size, capacity, and year of manufacture shall be listed for each piece of equipment. The list shall be provided at the pre-construction conference or no later than one week prior to the first estimate and shall be updated as changes occur but at least once a month.

9-25-03 (SPCN)

(**c108j**0b-0805) **SECTION 108—PROSECUTION AND PROGRESS OF WORK** of the Specifications is amended as follows:

Section 108.02—Notice to Proceed is replaced with the following:

Unless otherwise indicated in the Contract, the date of the Notice to Proceed will be the date of contract execution. The State Contract Engineer will contact the Contractor on the date of contract execution to inform him of such action. The State Contract Engineer will confirm this date in the letter of Contract Execution. This letter of Contract Execution will be distributed to Department personnel involved in the administration of the Contract as well as the Contractor.

In the event the Contractor for matters of his convenience wishes to begin work later than 15 days from the Notice to Proceed as stated in Section 108.03, he shall make such a request in writing to the Engineer promptly after the execution of the Contract. If the Contractor's start date is acceptable to the Engineer, the Contractor will be notified in writing; however, the Contract fixed completion date will not be adjusted but will remain binding. The Contractor's request to adjust the start date for the work on the Contract will not be considered as a basis for claim that the time resulting from Contractor's requested start date, if accepted by the Engineer, is insufficient to accomplish the work nor shall it relieve the Contractor of his responsibility to perform the work in accordance with the scope of work and requirements of the Contract. In no case shall work begin before the Department executes the Contract. The Contractor shall notify the Engineer at least 24 hours prior to the date on which he plans to begin the work.

Section 108.03—Prosecution of Work is amended to replace the first sentence with the following:

The Contractor shall begin work within 15 calendar days of the date of contract execution unless permitted otherwise by specific language in the Contract or as permitted by the provisions of Section 108.02.

Section 108.09—Determination and Extension of Contract Time Limit is amended to delete the last paragraph and replace the second and third paragraphs with the following:

If the satisfactory fulfillment of the Contract with extensions and increases meeting the requirements of Sections 104.02 and 104.03 requires the performance of work in greater quantities than those specified in the Contract, the Contractor shall inform the Department in writing if the additional quantities require additional time to perform the work and, if so, the reason supporting such a determination and the additional amount of time requested to perform the work due to the greater quantities. The Engineer will determine if additional contract time is warranted by the greater quantities as specified in the Contractor's request and, if authorized, the amount of additional time to be added to the contract time limit as well as the additional quantities that gave rise to the time extension will be listed in the extra work order.

With a fixed date contract when the date of contract execution is not within 60 calendar days after the opening of bids, or when the Contractor is unable to commence work because of any failure of the Department, or when the Contractor is delayed because of the fault of the Department, the Contractor will be given an extension of time based on the number of days delayed beyond the 60 days. No time extension will be allowed for a delay in the date of contract execution when the delay is the fault of the Contractor.

Section 108.09(a) Calendar Days is amended to delete the second paragraph and to replace the last sentence of the first paragraph with the following:

The contract time limit may be adjusted on a day-for-day basis when the work is suspended.

Section 108.13—Default of Contract is revised to replace (a) with the following:

(a) fails to begin the work under the Contract within 15 calendar days of the date of contract execution except as otherwise permitted by specific contract language or the provisions of Section 108.02.

Table I-1 Schedule Of Liquidated Damages is replaced by the following:

TABLE I-1
Schedule of Liquidated Damages

Original Contract Amount In Dollars			Daily Charge In Dollars
0	-	500,000	350
500,001	-	2,000,000	600
2,000,001	-	8,000,000	1,350
8,000,001	-	15,000,000	2,500
15,000,001	-	Plus	3,100

7-28-05 (SPCN)

(**c109b**4b-0805) **SECTION 109—MEASUREMENT AND PAYMENT** of the Specifications is amended as follows:

Section 109.04—Compensation for Altered Quantities is amended to delete the last sentence of the second paragraph.

Section 109.05(d)—Equipment is replaced with the following:

(d) **Equipment:** The Contractor shall provide the Engineer a list of all equipment to be used in the work. For each piece of equipment, the list shall include the serial number; date of manufacture; location from which equipment will be transported; and, for rental equipment, the rental rate and name of the company from which it is rented. The Contractor will be paid rental rates for pieces of machinery, equipment, and attachments necessary for prosecution of the work that are approved for use by the Engineer. Hourly rates will not exceed 1/176 of the monthly rates of the schedule shown in the *Rental Rate Blue Book* modified in accordance with the *Blue Book* rate adjustment tables that are current at the time the force account is authorized.

Adjustment factors or rate modifications indicated on area maps in the *Blue Book* will not be considered when acceptable rates are determined. Hourly rates for equipment on standby will be at 50 percent of the rate paid for equipment performing work. Operating costs shall not be included in the standby rate.

Payment will be made for the total hours the equipment is performing work. When equipment is performing work less than 40 hours for any given week and is on standby, payment for standby time will be allowed for up to 40 hours, minus hours performing work. Payment will not be made for the time that equipment is on the project in excess of 24 hours prior to its actual use in the force account work. An amount equal to the *Blue Book* estimated operating cost per hour will be paid for all hours the equipment is performing work. This operating cost shall be full compensation for fuel, lubricants, repairs, greasing, fueling, oiling, small tools, and other incidentals. No compensation will be paid for the use of machinery or equipment not authorized by the Engineer.

The Contractor will be paid freight cost covering the moving of equipment to and from the specific force account operation provided such cost is supported by an invoice showing the actual cost to the Contractor. However, such payment will be limited to transportation from the nearest source of available equipment. If equipment is not returned to the nearest equipment storage lot but is moved to another location, the freight cost paid will not exceed the cost of return to the nearest storage lot.

The rates for equipment not listed in the *Blue Book* schedule shall not exceed the hourly rate being paid for such equipment by the Contractor at the time of the force account authorization. In the absence of such rates, prevailing rates being paid in the area where the authorized work is to be performed shall be used.

If the Contractor does not possess or have readily available equipment necessary for performing the force account work and such equipment is rented from a source other than a company that is an affiliate of the Contractor, payment will be based on actual invoice rates, to which 15 percent of the invoice cost will be added for administrative cost and profit. If the invoice rate does not include the furnishing of fuel, lubricants, repairs, and servicing, the invoice rate will be converted to an hourly rate, and an amount equal to the *Blue Book* estimated operating cost per hour will be added for each hour the equipment is performing work.

Section 109.07—Partial Payments is amended to replace the third, fourth, fifth and sixth sentences of the first paragraph with the following:

Partial payments will be made once each month for the work performed in accordance with the contract requirements. The Contractor will be given the opportunity to review the monthly progress estimate prior to each partial payment. Upon final acceptance, one last monthly estimate will be prepared and any additional partial payment will be vouchered for payment.

Section 109.07—Partial Payments is amended to replace the second paragraph with the following:

The monthly progress estimates for contractors on the Department's prequalification list will be prepared in accordance with the following schedule:

(a) **Contractor companies whose name begins with the letter *A* through *F*:** The monthly progress estimate will be prepared on the 4th day of each month, beginning on the first 4th day following the date of the Contract execution, and on the same day of the succeeding months as the work progresses.

(b) **Contractor companies whose name begins with the letter *G* through *P*:** The monthly progress estimate will be prepared on the 11th day of each month, beginning on the first 11th day following the date of the Contract execution, and on the same day of the succeeding months as the work progresses.

(c) **Contractor companies whose name begins with the letter *Q* through *Z*:** The monthly progress estimate will be prepared on the 20th day of each month, beginning on the first 20th day following the date of the Contract execution, and on the same day of the succeeding months as the work progresses.

Section 109.09—Final Payment is amended to include the following:

After final acceptance and prior to final payment, the Contractor may request reimbursement for additional performance and payment bond premiums, but only to the extent that the final contract amount exceeds the original contract amount. If the Contractor claims for such bond premium reimbursement, the Contractor shall submit to the Department a written request for reimbursement of additional performance and payment bond premiums, together with a notarized statement from the surety, or its agent that certifies the Contractor's actual bond premium rate for any increase in contract amount above the original contract amount. Such request shall also contain the Contractor's calculation of the additional premium to be paid as verified by the surety or its agent.

Upon submission of such request from the Contractor, the Department will calculate the additional bond premium payment due the Contractor by multiplying the difference between the final contract amount, including all work orders, overruns, and adjustments, and the original contract amount, times the percentage bond premium rate provided by the Contractor and certified by the surety or its agent. The additional premium amount will be paid to the Contractor on the final estimate.

In the event there was a decrease in the original contract amount due to underruns, eliminated items or work, Contractor generated Value Engineering proposals, or other savings and there was a corresponding decrease in performance and payment bond premiums, the Contractor shall reimburse the Department the amount of the decreased premiums prior to the payment of the final estimate. Such reimbursement shall be accompanied by verification from the Contractor's surety or agent.

7-28-05 (SPCN)

(**c110a**0b-0702) **SECTION 110.02 (b) LABOR RATE FORMS** of the Specifications is amended by the following:

The Contractor is advised that labor rate forms will not apply to this contract.

8-1-91, Reissued 7-9-02 (SPCN)

(**c110d**0b-0103) **SECTION 110.05 CONSTRUCTION SAFETY AND HEALTH STANDARDS** of the Specifications is amended to add the following paragraph:

Additionally at a minimum, all Contractor personnel shall comply with the following, unless otherwise determined unsafe or inappropriate in accordance with OSHA regulations:

1. Hard hats shall be worn while participating in or observing all types of field work when outside of a building or outside of the cab of a vehicle, and exposed to, participating in or supervising construction.
2. Respiratory protective equipment shall be worn whenever an individual is exposed to any item listed in the OSHA Standards as needing such protection unless it is shown the employee is protected by engineering controls.

3. Adequate eye protection shall be worn in the proximity of grinding, breaking of rock and/or concrete, while using brush chippers, striking metal against metal or when working in situations where the eyesight may be in jeopardy.

4. Safety vest shall be worn by all exposed to vehicular traffic and construction equipment.

5. Standards and guidelines of the current Virginia Work Area Protection Manual shall be used when setting, reviewing, and removing traffic controls.

6. Flag persons shall be certified according to the Virginia Flagger Certification Program.

7. No person shall be permitted to position themselves under any raised load or between hinge points of equipment without first taking steps to support the load by the placing of a safety bar or blocking.

8. Explosives shall be purchased, transported, stored, used and disposed of by a Virginia State Certified Blaster in possession of a current criminal history record check and a commercial driver's license with hazardous materials endorsement and a valid medical examiner's certificate. All Federal, State and local regulations pertaining to explosives shall be strictly followed.

9. All electrical tools shall be adequately grounded or double insulated. Ground Fault Circuit Interrupter (GFCI) protection must be installed in accordance with the National Electrical Code (NEC) and current Virginia Occupational Safety and Health agency (VOSH). If extension cords are used, they shall be free of defects and designed for their environment and intended use.

10. No person shall enter a confined space without training, permits and authorization.

11. Fall protection is required whenever an employee is exposed to a fall six feet or greater.

11-22-02 (SPCN)

(**c200a**0b-1205) **SECTION 200.06—TECHNICIAN AND BATCHER CERTIFICATION** of the Specifications is amended as follows:

Section 200.06(b)**—Asphalt Concrete Plant Technician** is replaced with the following:

(b) **Asphalt Plant Technician:** An Asphalt Plant Technician samples material and is capable of conducting any tests necessary to put the plant into operation.

Section 200.06(c)**—Hydraulic Cement Concrete Plant Technician:** is replaced with the following:

(c) **Concrete Plant Technician:** A Concrete Plant Technician performs necessary adjustments in the proportioning of material used to produce the specified concrete mixtures

Section 200.06(d)**— Hydraulic Cement Concrete Batcher:** is replaced with the following:

(d) **Concrete Batcher:** A Concrete Batcher performs the batching operation. The batcher implements adjustments only at the direction of a certified Concrete Plant Technician unless the batcher's certification authorizes otherwise.

Section 200.06(e)**—Asphalt Paving Technician** is replaced with the following:

(e) **Asphalt Field Technician:** An Asphalt Field Technician inspects asphalt concrete placement and surface treatment in accordance with applicable requirements.

Section 200.06(f)**—Concrete Field Technician** is replaced with the following:

(f) **Concrete Field Technician:** A Concrete Field Technician provides quality control of placement operations for hydraulic cement concrete in accordance with applicable requirements

Section 200.06 is amended by adding the following:

(g) **Asphalt Mix Design Technician:** An Asphalt Mix Design Technician is responsible for designing and adjusting mixes as needed, reviewing and approving all test results, having direct communication with the plant for making recommended adjustments and capable of conducting any tests necessary to put the plant into operation.

(h) **Aggregate Properties Technician:** An Aggregate Properties Technician conducts all aggregate tests on aggregate used in asphalt concrete in accordance with applicable requirements

10-25-05 (SPCN)

(**c202a**0b-0105) **TABLE II-1 FINE AGGREGATE** of the Specifications is replaced by the following:

Table II-1

Fine Aggregate								
Amounts Finer Than Each Laboratory Sieve (Square Opening) (% by Weight)								
	3/8 in.	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No.200
Grading	(9.5mm)	(4.75mm)	(2.36mm)	(1.18mm)	(600um)	(300um)	(150um)	(75um)
A	Min. 100	95-100	80-100	50-85	25-60	5- 30	Max. 10	
B	Min. 100	94-100					Max. 10	
C	Min. 100	94-100				Max. 25		

5-30-03 (SPCN)

(**c203b**0b-0804) **SECTION 203—COARSE AGGREGATE** of the Specifications is amended as follows:

Section 203.03—Detail Requirements is amended by adding the following:

(e) **Flat & Elongated:** Coarse Aggregate to be used as a riding surface during construction activities or as the riding surface after construction shall contain not more than 30 percent by mass of aggregate particles retained on and above the 3/8-inch sieve having a maximum to minimum dimensional ratio greater than 5 as determined by ASTM D4791.

Table II-3 Sizes Of Open Graded Coarse Aggregates is replaced by the following:

TABLE II-3

Sizes of Open Graded Coarse Aggregates															
Amounts Finer Than Each Laboratory Sieve (Square Openings) (% by Weight)															
Va Size No.	**4 in.**	**3 ½ in.**	**3 in.**	**2 ½ in.**	**2 in.**	**1 ½ in.**	**1 in.**	**¾ in.**	**½ in.**	**3/8 in.**	**No. 4**	**No. 8**	**No. 16**	**No. 50**	**No. 100**
	100 mm	**87.5 mm**	**75 mm**	**62.5 mm**	**50 mm**	**37.5 mm**	**25 mm**	**19 mm**	**12.5 mm**	**9.5 mm**	**4.75 mm**	**2.36 mm**	**1.18 mm**	**300 um**	**150 um**
1	Min. 100	90-100		25-60		Max. 15		Max. 5							
2			Min. 100	90-100	35-70	Max. 15		Max. 5							
3				Min. 100	90-100	35-70	0-15		Max. 5						
357				Min. 100	95-100		35-70		10-30		Max. 5				
5						Min. 100	90-100	20-55	Max. 10	Max. 5					
56						Min. 100	90-100	40-85	10-40	Max. 15	Max. 5				
57						Min. 100	95-100		25-60		Max. 10	Max. 5			
67							Min. 100	90-100		20-55	Max. 10	Max. 5			
68							Min. 100	90-100		30-65	5-25	Max. 10	Max. 5		
7								Min. 100	90-100	40-70	Max. 15	Max. 5			
78								Min.	90-100	40-75	5-25	Max.	Max. 5		

								100				10			
8									Min. 100	85-100	10-30	Max. 10	Max. 5		
8P									Min. 100	75-100	5-30	Max. 5			
9										Min. 100	85-100	10-40	Max. 10	Max. 5	
10										Min. 100	85-100				10-30

Table II-5 Abrasion is revised to delete the words **Magnesium Sulfate** and **Freeze and Thaw**.

8-17-04 (SPCN)

(**c207a**0b-1203) **SECTION 207.02—DETAIL REQUIREMENTS** of the Specifications is amended by adding the following:

(e) **Flat and Elongated:** Select Materials to be used as a riding surface during construction activities or as the riding surface after construction shall contain not more than 30 percent by mass of aggregate particles retained on and above the 3/8-inch sieve having a maximum to minimum dimensional ratio greater than 5 as determined by ASTM D4791.

9-17-03 (SPCN)

(**c208a**0b-1203) **SECTION 208.03—DETAIL REQUIREMENTS** of the Specifications is amended by adding the following:

(g) **Flat and Elongated:** Subbase and Aggregate Base Materials to be used as a riding surface during construction activities or as the riding surface after construction shall contain not more than 30 percent by mass of aggregate particles retained on and above the 3/8-inch sieve having a maximum to minimum dimensional ratio greater than 5 as determined by ASTM D4791.

9-17-03 (SPCN)

(**c210a**0b-0702) **ASPHALT CEMENTS** - Whenever and wherever within the Contract Documents asphalt cements are specified they shall be defined as Strategic Highway Research Project (SHRP) Performance Graded (PG) asphalt cements. Substitution of AASHTO designated asphalt cements with performance graded asphalt cements shall be in accordance with the following:

AASHTO DESIGNATION	SHRP DESIGNATION PERFORMANCE GRADED *
AC-5	PG 52-28
AC-10	PG 58-22
AC-20	PG 64-22
AC-30	PG 70-22
AC-40	PG 70-22

*PG asphalts shall conform to the requirements of AASHTO Provisional Specifications MP-1.

9-5-96, Reissued 7-9-02 (SPCN)

(**c216a**0b-0105) **SECTION 216.02—DETAIL REQUIREMENTS** of the Specifications is amended to replace the fourth paragraph with the following:

Wash water from hydraulic cement concrete mixer operations will be permitted to be reused in the concrete mixture provided it is metered and is 25 percent or less of the total water. The total water shall conform to the acceptance criteria of ASTM C94, Tables 1 and 2. A uniform amount of wash water shall be used in consecutive batches, with subsequent admixture rates adjusted accordingly to produce a workable concrete conforming to the Specifications.

1-30-03 (SPCN)

(**c217c**0b-0105) **SECTION 217—HYDRAULIC CEMENT CONCRETE** of the Specifications is amended as follows:

Section 217.05(c)—Mobile Production Plants is amended by replacing 4. with the following:

4. During discharge, the consistency, determined by the slump cone method (ASTM C143) on representative samples taken from the discharge of the mixer at random intervals, shall not vary by more than 1 inch.

Section 217.08(a)—Air and Consistency Tests is replaced with the following:

Air and Consistency Tests: Air and consistency tests will be performed by the Department prior to discharge into forms to ensure that specification requirements are consistently being complied with for each class of concrete. The sample secured for the tests will be taken after at least 2 cubic feet of concrete has been discharged from the delivery vehicle. The Contractor shall provide a receptacle conforming to the requirements of ASTM C31, Section 5.9, for the Department's use in obtaining its sample. If either determination yields a result that is outside the allowable range for air content or consistency, the following procedures will be used:

1. The Engineer will immediately perform a recheck determination. If the results confirm the original test results, the load will be rejected.

2. The Contractor's representative will be immediately informed of the test results.

3. The Contractor's representative shall notify the producer of the test results through a preestablished means of communication.

The Engineer may perform any additional tests deemed necessary and reject all remaining material that fails the tests.

Entrained air content will be determined in accordance with the requirements of ASTM C231 or C173. Acceptance or rejection will be based on the results obtained from these tests.

In general, a mixture that contains the minimum amount of water consistent with the required workability shall be used. Consistency will be determined in accordance with the requirements of ASTM C143. Adding cement to loads previously rejected for excessive water content or consistency will not be permitted.

Section 217.08(b)—Strength Tests is amended to replace the first paragraph with the following:

Strength Tests: The 28-day strengths specified in Table II-17 are the strengths used in the design calculations. The Engineer will verify design strengths by tests made during the progress of the work in accordance with the requirements of ASTM C39, C31, or C42. If the test results do not conform to the strengths specified in Table II-17, immediate steps shall be taken to adjust the design mixture and an investigation will be initiated to determine the acceptability of the concrete.

Table II-17 Requirements For Hydraulic Cement Concrete is replaced with the following:

TABLE II-17

Requirements for Hydraulic Cement Concrete

Class of Concrete		Design Min. Laboratory Compressive Strength at 28 Days (f'_c) (psi)	Aggregate Size No.	Nominal Max. Aggregate Size (in.)	Min. Grade Aggregate	Min. Cement Content (lb./cu. yd.)	Maximum Water (lb. water/ lb. cement)	Consistency (in. of slump)	Air Content (%)[1]
A5	Prestressed and other special designs[2]	5,000	57 or 68	1	A	635	0.40	0-4	4½ ±1½
A4.5	General	4,500	57	1	A	635	0.45	2-4	6½ ±1½
A4	General	4,000	57	1	A	635	0.45	2-4	6½ ±1½
A4	Posts & rails[3]	4,000	7	1/2	A	635	0.45	2-5	7 ±2
A3.5	General	3,500	57	1	A	588	0.49	1-5	6 ±2
A3	General	3,000	57	1	A	588	0.49	1-5	6 ±2
A3	Paving	3,000	57	1	A	564	0.49	0-3	6 ±2
B2	Massive or lightly reinforced	2,200	57	1	B	494	0.58	0-4	4 ±2
C1	Massive unreinforced	1,500	57	1	B	423	0.71	0-3	4 ±2
T3	Tremie seal	3,000	57	1	A	635	0.49	3-6	4 ±2
Latex hydraulic cement concrete[4]		3,500	7 or 8	1/2	A	658	0.40	4-6	5 ±2
Silica fume concrete		5,000	7 or 8	1/2	A	658[5]	0.40	4-7	6 ±2

[1] When a high-range water reducer is used, the upper limit for entrained air may be increased by 1% and the slump shall not exceed 7 inches.

[2] When Class A5 concrete is used as the finished bridge deck riding surface, or when it is to be covered with asphalt concrete with or without waterproofing, the air content shall be 5½ ±1½%.

[3] When necessary for ease in placement, aggregate No. 7 shall be used in concrete posts, rails, and other thin sections above the top of bridge deck slabs.

[4] The latex modifier content shall be 3.5 gallons per bag of cement. Slump shall be measured approximately 4½ minutes after discharge from the mixer.

[5] Minimum 7% silica fume replacement by weight of the total cementitious material.

Note: The Contractor may substitute a higher class of concrete for that specified at his expense.

8-17-04 (SPCN)

(**c220a**0b-0105) **SECTION 220.02(d)—LIQUID MEMBRANE-FORMING COMPOUNDS** of the Specifications is amended by replacing 5. with the following:

5. The average moisture loss at 24 hours shall be not more than 0.20 kilograms per square meter of exposed surface. At 72 hours, it shall not be more than 0.30 kilograms per square meter.

8-17-04 (SPCN)

(**c302a**0b-0702) **SECTION 302.03—PROCEDURES** is amended to add the following:

The Contractor shall be responsible for anticipating and locating underground utilities and obstructions in accordance with the requirements of Section 105.07 of the Specifications.

When construction appears to be in close proximity to existing utilities, the trench(es) shall be opened a sufficient distance ahead of the work or test pits made to verify the exact locations and inverts of the utility to determine if changes in line or grade are required for the new work.

4-5-02 (SPCN)

(**c302b**1b-0604) **SECTION 302—DRAINAGE STRUCTURES** of the Specifications is amended as follows:

Section 302.03(a) 2.g.—Backfilling is amended to delete the first, fourth, fifth, sixth, and seventh paragraphs, and to add the following:

Class I backfill material shall be crusher run aggregate size no. 25 or 26, Aggregate Base Material Size 21A or 21B, or Flowable Fill.

Regular backfill material outside of the neatlines of the Class I areas shown on the Standard Drawings shall be regular excavation conforming to Section 303. Regular and classified backfill shall be placed in uniform layers not more than 6 inches in thickness, loose measurement, before compaction. Each layer of Class I and regular backfill material shall be thoroughly compacted as specified in Section 303.04(g) with the exception that Class I backfill material shall be placed and compacted at a moisture content of optimum to plus 2 percentage points of optimum. Class I backfill material shall be thoroughly compacted under the haunches of pipe culverts. Each layer of Class I and regular backfill material shall be compacted by rolling, tamping with mechanical rammers, or hand tamping with heavy metal tampers with a face of at least 25 square inches. If vibratory rollers are used in the backfill operations, vibratory motors shall not be activated until at least 3 feet of backfill has been placed and compacted over the pipe. Backfill and compaction shall be advanced simultaneously on both sides of the pipe. The fill above the top of the Class I backfill shall be completed as specified for embankment construction.

Field density determinations will be performed in accordance with the requirements of VTM-1, VTM-10 or other methods approved by the Engineer.

Concrete pipe with a height of cover greater than that shown in the Standard PC-1 table for Class V pipe shall be Special Design pipe with Method "A" bedding and backfill in accordance with the requirements of Standard PB-1.

Section 302.03(b) 1.b.—Standard precast drainage units is replaced with the following:

Pipe openings in precast drainage units shall not exceed the outside cross sectional dimensions of the pipes by more than a total of 8 inches regardless of the placement of the pipes, the angles of intersection, or the shapes of the pipes. Pipe openings shall be formed, drilled, or neatly cut.

Section 302.03(b) 1.c.—Standard precast drainage units is replaced with the following

The Contractor shall use brick, masonry block, other standard masonry units, or clean, durable, and sound local stone in conjunction with mortar to fill the void between the pipe culverts and the precast drainage structures. Stone or masonry units, areas of the pipe openings, and exterior walls of pipe shall be thoroughly wetted and then bonded with mortar by standard masonry practice in such a manner as to provide a contiguous masonry connection between the precast drainage structures and the pipe culverts. The remaining exterior and interior voids shall be filled with mortar and shaped to the contour of the precast structure.

Section 302.04—Measurement and Payment is amended to delete the eleventh, twelfth and thirteenth paragraphs and replace the fifth, fourteenth and fifteenth paragraphs with the following:

Pipe shall be paid for at the contract unit price per linear foot. This price shall include excavating, when not paid for as Minor Structure Excavation, sheeting, shoring, dewatering, disposing of surplus and unsuitable material and restoring existing surfaces. The upper 4 inches of bedding material and the Class I backfill material within the neatlines shown for each foundation type on the Standard PB-1 Drawings shall be included in the price for the related pipe. When unit prices for extended pipelines are not specified, the unit price for new pipe of the same size shall apply. When not a pay item, the cost of the temporary relocation of a stream to facilitate the installation of the pipe shall be included in the price for the pipe. The cost of fittings, anti-seepage collars and anchor blocks shall be included in the price for the pipe.

Cast in place box culverts will be measured in cubic yards of concrete and pounds of reinforcing steel and will be paid for at the contract unit price per cubic yard of concrete and per pound of reinforcing steel. These prices shall include excavating, when not paid for as Minor Structure Excavation, sheeting, shoring, dewatering, waterproofing, disposing of surplus and unsuitable material, restoring existing surfaces, the upper 6 inches of bedding material within the neatlines shown on the Standard PB-1 Drawings and all necessary work to key the bottom slab into an existing rock foundation. When not a pay item, the cost of the temporary relocation of a stream to facilitate the installation of the structure shall be included in the price for the concrete and steel.

If the Contractor elects to furnish and install precast box culverts or precast arches, payment will be made for the original quantities shown on the plans for cast-in-place units. No additional compensation will be made for casting, prestressing, or shipping precast units or performing additional work, such as waterproofing, epoxy coating, or joint sealing, required as a result of the substitution.

Precast box culverts will be measured in linear feet along the centerline of the barrel from face of curtain wall to face of curtain wall and will be paid for at the contract unit price per linear foot. This price shall include designing, casting, reinforcing, excavating, when not paid for as Minor Structure Excavation, sheeting, shoring, dewatering, installing, waterproofing, sealing joints, anchoring, disposing of surplus and unsuitable material, restoring existing surfaces, the upper 6 inches of bedding material within the neatlines shown on the Standard PB-1 Drawings, fittings and providing buffer zones and porous backfill for multiple lines. When not a pay item, the cost of the temporary relocation of a stream to facilitate the installation of the structure shall be included in the price for the box culvert.

Section 302.04 - Measurement and Payment is amended to delete the following Pay Items and Pay Units:

Pay Item	**Pay Unit**
Bedding material, aggregate No. ( )	Ton
Class I backfill material	Cubic yard or Ton
Class II backfill material	Cubic yard or Ton

1-20-04 (SPCN)

(**c305a**1b-0705) **SECTION 305.03—PROCEDURES** of the Specifications is amended as follows:

SECTION 305.03 (a) 2 - Subgrade Consisting Of Treated Materials In Place is amended to replace the third paragraph with the following:

Field density determinations will be performed in accordance with the requirements of AASHTO T191, modified to include material sizes used in the laboratory determination of density; with a nuclear density testing device; or by other approved methods. When a nuclear device is used, the nuclear density determination for treated in-place subgrade material will be related to the density of the same material tested in accordance with the requirements of VTM-1 or VTM-12 and a control strip will not be required.

And to replace (d) with the following:

(d) **Geotextile (Subgrade Stabilization):** When geotextile for subgrade stabilization is required it shall be placed as shown on the plans. Geotextile shall be spliced by an overlap of at least 2 feet or by sewing double stitched seams with stitching spaced ¼ inch to ½ inch apart or as shown on the plans.

1-7-05 (SPCN)

(**c308a**1b-0705) **SECTION 308.03—PROCEDURES** of the Specifications is amended to replace the first sentence of the fourth paragraph with the following:

> Each layer of subbase course shall be compacted at optimum moisture, within ± 2 percentage points of optimum.

And to replace the seventh paragraph with the following:

> Field density determinations will be performed with a nuclear field density device using the density control strip as specified in Section 304 and VTM-10 or in accordance with the requirements of AASHTO T191. The method of density determination will be as directed by the Engineer.

1-7-05 (SPCN)

(**c309a**1b-0705) **SECTION 309.05 DENSITY REQUIREMENTS** of the Specifications is amended to replace the first sentence of the second paragraph with the following:

> After mixing and shaping, each layer shall be compacted at optimum moisture within ± 2 percentage points of optimum.

And to replace the fifth paragraph with the following:

> The base course will be tested in place for depth and density. Field density determinations will be performed with a nuclear field density device, using a density control strip as specified in Section 304 and VTM 10, or in accordance with the requirements of AASHTO T191. The method of density determination will be as directed by the Engineer.

1-7-05 (SPCN)

(**c316a**0b-0702) **SAW CUT HYDRAULIC CEMENT CONCRETE PAVEMENT**- This work shall consist of saw cutting the existing hydraulic cement concrete pavement to a depth shown on the plans and as directed by the Engineer.

Saw cut hydraulic cement concrete pavement will be measured in feet for the depth specified and will be paid for at the Contract unit price per foot, which price shall be full compensation for saw cutting the hydraulic cement concrete pavement to the depth specified.

Payment will be made under:

Pay Item	**Pay Unit**
Saw cut hydraulic cement concrete pavement (depth)	Linear foot

8-25-98 (SPCN)

(**c316b**0b-0105) **SECTION 316—HYDRAULIC CEMENT CONCRETE PAVEMENT** of the Specifications is amended as follows:

Section 316.04(e)—Placing Concrete is amended to replace the second sentence of the second paragraph with the following:

Test specimens for this purpose shall conform to the requirements of ASTM C31 and shall be tested in accordance with the requirements of ASTM C293.

Section 316.04(f)—Test Specimens is amended to replace the second sentence of the first paragraph with the following:

Beams shall be cured by a designated method as specified for the pavement in accordance with the requirements of ASTM C31.

Section 316.04(g)5—Load transfer devices is amended to replace the fifth sentence of the second paragraph with the following:

Dowels, plastic coated in accordance with the requirements of Federal Specification L-C-530 C or epoxy coated in accordance with the requirements of ASTM-A775, may be used in lieu of painted and lubricated dowel bars.

Section 316.04(o)—Opening to Traffic is amended to replace the first sentence of the first paragraph with the following:

Pavement shall not be opened to traffic until specimen beams conforming to the requirements of (f) herein have attained a modulus of rupture strength of 600 pounds per square inch when tested by the center point loading method in accordance with the requirements of ASTM C293.

8-17-04 (SPCN)

(**c404b**1b-0705) **SECTION 404—HYDRAULIC CEMENT CONCRETE OPERATIONS** of the Specifications is amended as follows:

Section 404.03(j)3 is amended to replace the fifth sentence of the third paragraph with the following:

Single-use wax paper, paper, plastic or light-gage metal molds conforming to the requirements of ASTM C470 may be used for making control cylinders.

Section 404.03(k)—Curing Concrete is amended to replace the last sentence of the fourth paragraph with the following:

Curing shall be immediately resumed using insulated blankets or other approved methods that will retain or supply moisture and maintain the temperature at the outermost surfaces of the concrete mass above 50 degrees F for at least 72 hours immediately following concrete placement and above 40 degrees F for at least 48 additional hours.

Section 404.03(k)—Curing Concrete is amended to replace the fifth paragraph with the following:

In the event the Contractor begins masonry concrete operations when the atmospheric temperature is below 40 degrees F in the shade, the method of cure and protection shall retain or supply moisture and maintain the temperature at the outermost surfaces of the concrete mass above 50 degrees F for at least 72 hours immediately following concrete placement and above 40 degrees F for at least 48 additional hours.

Section 404.03(k)1—Bridge Deck Curing is amended to replace the fifth sentence with the following:

The initial temperature of the outermost surfaces of the concrete mass shall be above 50 degrees F for at least 72 hours and above 40 degrees F until the completion of the moist-curing period.

Section 404.05(b)—Filled Joints is amended to replace the first sentence of the first paragraph with the following:

Materials for filled joints shall conform to the requirements of Section 212 and shall be installed in accordance with the requirements of Section 316.04(m).

Section 404.08—Measurement and Payment is amended to replace the second paragraph with the following:

The volume of bridge deck slab concrete allowed for payment will be computed using the actual thickness of the slab, not to exceed the plan thickness plus 1/2 inch, for the area between faces of sidewalks, curb lines, railings or parapets. The area beneath sidewalks, curbs, railings, or parapets will be based on plan thickness. If prestressed concrete deck panel forms are used, the volume they displace will be computed using plan dimensions and the volume of the cast-in-place portion will be measured as provided herein.

10-29-04 (SPCN)

(**c512c**1b-0304) **SECTION 512—MAINTAINING TRAFFIC** of the Specifications is amended as follows:

Section 512.02 (e) Construction Signs is replaced by the following:

Construction signs shall conform to the requirements of Section 247. Sign substrates for rigid construction signs mounted on posts shall conform to Section 701 or be a 0.079-inch thick aluminum/plastic laminate.

Sign substrates for signs mounted on drums, type III barricades and portable sign stands shall be of the materials listed below and shall be the same material that was used when the device was tested and found to be in compliance with the requirements of *National Cooperative Highway Research Program (NCHRP)* Report 350, Test Level 3 or of other materials allowed in the FHWA acceptance letter.

SIGN SUBSTRATES FOR TYPE III BARRICADES AND PORTABLE SIGN STANDS
Rollup sign
0.4 inch thick corrugated polypropylene or polyethylene plastic
0.079 inch thick aluminum/plastic laminate

SIGN SUBSTRATES FOR DRUMS
0.4 inch thick corrugated polypropylene or polyethylene plastic

Section 512.03 - Procedures is amended to replace the first paragraph with the following:

Traffic shall be maintained and protected in accordance with the requirements of Sections 104.04 and 107.10. Work shall be scheduled and performed so as to provide minimum interference with and maximum protection to traffic. The Contractor's personnel, equipment, machinery, tools, and supplies shall be kept outside of the clear zone and clear of active traffic lanes except as necessary for prosecuting active work. Stabilized construction entrances shall be used in construction areas where there is a potential for construction vehicles to track material from the construction site onto a paved surface. Material that is spilled or tracked onto the traveled pavement during prosecution of the work shall be promptly removed.

Section 512.03(a) Signs is amended to replace 1. in the fifth paragraph with the following:

1. Sign installations shall be used for no longer than 3 consecutive days (72 hours).

And to replace the first three paragraphs of 2. in the fifth paragraph with the following:

2. Portable sign stands shall be used with signs having a substrate material of the type required by Section 512.02(e) and only those that were tested and found to be in compliance with the requirements of *NCHRP* Report 350, Test Level 3 or otherwise accepted in a FHWA acceptance letter for that specific sign stand.

   Portable sign stands shall be self-erecting and shall accommodate signs of the shape being utilized. Portable sign stands shall support a 16 square foot sign panel in 50 mph winds without tipping over, walking, or rotating more than ±5 degrees about its vertical axis. Additional weight consisting of no more than one

25-pound sandbag placed on each leg or no more than two cone weights positioned on the center of the sign stand and around the mast may be used to accomplish this requirement. When used on uneven surfaces, the portable sign stand shall be capable of adjusting to those surfaces to allow the signs to be installed in their normal upright position ±15 degrees. Portable sign stands shall include decals, stenciling or some other durable marking system that indicates the manufacturer and model number of the stands. Such marking shall be of sufficient size so it is legible to a person in a standing position.

Portable sign stands shall conform to the requirements of *NCHRP* Report 350, Test Level 3 and shall be selected from those shown on the Department's Approved List or the Contractor shall submit a certification letter stating the brands and models of portable sign stands to be used along with a copy of the FHWA acceptance letter indicating compliance with *NCHRP* Report 350, Test Level 3 shall be submitted prior to their use.

Section 512.04 Measurement and Payment is amended to replace the second sentence of the eighteenth paragraph ("Construction signs") with the following:

This price shall include furnishing, installing, maintaining, covering and uncovering, relocating and removing temporary sign panels, sign supports, hardware, delineators and flags. Payment based on square footage shall be compensation for the sign(s) for the duration of the project; multiple payments for the same sign used more than once will not be allowed.

10-2-03 (SPCN)

(**c603a**0b-0206) **SECTION 603.03—PROCEDURES** of the Specifications is amended as follows:

Section 603.03 (c) Applying Fertilizer is amended to replace the first paragraph with the following:

(c) **Applying Fertilizer:** When dry fertilizer is used, it shall be applied uniformly to the seeding areas at the time of seeding at the rate of 300 pounds of fertilizer per acre (approximately 45 pounds of nitrogen per acre or 1.0 pound of nitrogen per 1,000 square feet) or as directed by the Engineer. All slow release and slowly soluble fertilizer may be applied through a hydraulic seeder except for Sulfur Coated Urea (SCU). The method of application for all fertilizer products shall be approved by the Engineer prior to applying the fertilizer. When applied in liquid form or mixed with water, fertilizer shall provide the same value of nutrients per acre as specified for dry fertilizer. Fertilizer applied in liquid form shall be constantly agitated during application.

Section 603.03 (d) Applying Seed is amended to add the following:

Temporary Seeding shall consist of applying seed, fertilizer, and mulch in accordance with the rates specified in the plans or Section 603.03 of the Specifications to stabilize areas on which it is anticipated grading operations will be suspended for durations greater than 15 days. Where temporary seeding is required or directed by the Engineer, the cost for removal of vegetation once grading operations resume shall be included in the price of seeding.

6-10-04 (SPCN)

S100B0B-0205

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
PROJECT COMMUNICATION AND DECISION MAKING

January 3, 2005

I. DESCRIPTION

The intent of this provision is to establish procedures, processes and guidelines for making decisions and managing communications regarding work under contract on construction and maintenance projects. The information contained herein is not meant to be all inclusive but to serve as a minimal general framework for promoting efficient and effective communication and decision making at both the project and, if needed, executive administrative level. It is also not meant to override the decision-making processes or timeframes of specific contract requirements.

II. DEFINITIONS

For the purposes of this provision the following terms will apply and be defined as follows

Submittals – Documents required by the contract that the Contractor must submit for the Department's review, acceptance or approval. These may include shop drawings, working drawings, material test reports, material certifications, project progress schedules, and schedule updates. The Contractor shall produce submittals as early as practicable when required by the contract so as not to delay review and determination of action.

Confirmation of verbal instructions (COVI) - Contractor requested written confirmation of agreements and instructions developed in negotiations with the Department concerning the Work under contract. Agreements must be able to be quantified using existing contract procedures and will, in the vast majority of cases, not impact contract time and cost. When time and/or cost are impacted, they must be clearly spelled out in the COVI.

Requests for information (RFI) – Requests generated by either the Contractor or the Department that the other party supplies information to better understand or clarify a certain aspect of the Work.

Requests for owner action (ROA) – Requests when the Contractor asks that the Department take certain action(s) the Contractor feels is required for proper completion of a portion of the Work or project completion.

Contract change requests (CCR) - Request where the Contractor asks the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.

Requests for contractor action (RCA) – Request generated by the Department where the Department asks the Contractor to take certain action that is in the best interests of the project and/or is required for proper completion of a portion of the Work or for project completion.

Contract change directives (CCD) – Directive by the Department which instructs the Contractor to perform work beyond that specified or envisioned in the original contract and which may specify instructions, time, and cost(s) to make an equitable adjustment to the original contract.

Responsible Person – The individual in the normal or escalated resolution process, for either the Contractor or the Department, having the direct authority, responsibility and accountability to formulate and respond to each category of information request.

III. PROCESS FOR DECISION MAKING

Project teams composed on responsible individuals directly involved in the administration, prosecution, and inspection of the Work from the Contractor and the Department shall define and agree upon the field decision-making process during the pre-construction conference. This information relative to the process should be written down and distributed to all parties of the process once it is established. Where there are responsibility, authority or personnel changes associated with this process such changes shall be distributed to all affected parties as quickly as practicable after they are effective so as not to delay or impede this process.

The process for making field decisions with respect to the Work detailed in the contract basically requires the following steps:

1. The Contractor and the Engineer agree on the decision-making process, the identity, authority and accountability of the individuals involved and on the cycle times for response for each category of decision.
2. The party requiring the information generates the appropriate request documents, and calls for a decision from the individual who is accountable for the particular facet of the Work under consideration within the agreed period.
3. The responding party has an internal decision-making process that supports the individual who is accountable and provides the information required within the agreed period for each category of request.
4. The party receiving the decision has an internal process for accepting the decision or referring it for further action within an agreed period of time.

The process also requires that clear and well-understood mechanisms be in place to log and track requests, document the age and status of outstanding requests and actions to be taken on requests that have not been answered within the agreed period.

Both the Department and the Contractor shall agree on:

- The documentation and perhaps format to be developed for each category of information requested,
- The name (as opposed to organizational position) of all individuals with the responsibility, authority and accountability to formulate and respond to each category of information requested. The District Administrator (DA) or Chief Executive Officer (CEO) of the Contractor may delegate the responsibility and authority for formulating and responding to requests, however, the accountability for meeting the established response time(s) remains with the District Administrator and CEO.
- The cycle times for each stage in the decision-making process,
- The performance measures to be used to manage the process,
- The action to be taken if cycle times are not achieved and information is not provided in a timely manner.

The following general guideline and timeframe matrix will apply to the various requests for action. Again, please note these guidelines are general in scope and may not apply to specific contract timeframes for response identified within the requirements of the Contract documents. In such cases, specific contract requirements for information shall apply.

PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE CONTRACTOR

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
Submittal	Where the Contractor requests the Department's review, acceptance or approval of shop drawings, materials data, test reports, project progress schedules, or other submittals required by standard Specifications or other contract language.	Department's Designated Project Manager	• Acknowledge: 3 days[1] • Accept or Return: 14 days • Final Determination\Approve: 30 days or as outlined in contract documents.	DA or their designee*	7 days	Submit ROA or CCR
Confirmation of Verbal Instruction (COVI)	Resolving routine field issues, within the framework of the Contract, in negotiation with Owner field personnel.	Department's Appropriate field personnel	• Confirmation: 1 day [2]	Submit RFI, ROA or CCR	7 days	(See process for RFI, ROA, or CCR)
Request for Information (RFI)	Requests the Department to supply information to better understand or clarify a certain aspect of the work.	Department's Designated Project Manager	• Action: 14 days (or appropriate Action Plan)	DA or their designee*	7 days	Submit ROA or CCR
Request for Owner Action (ROA)	Requests that the Department take certain action the Contractor feels is required for proper completion of a portion of the Work or project completion.	Department's Designated Project Manager	• Acknowledge: 3 days [1] • Action: 14 days (or appropriate Action Plan)	DA or their designee*	7 days	Submit CCR
Contract Change Request (CCR)	Requests the Department to make an equitable adjustment to the contract because of excusable and/or compensable events, instructions that have or have not been given or other work requiring time and/or cost beyond that specified or envisioned within the original contract.	Department's Designated Project Manager	• Acknowledge: 3 days [1] • Action: 30 days (45 days if federal oversight project)	DA or their designee*	7 days	Established dispute resolution and claims process

[1] Process initiated on the last business day of a week shall be acknowledged before 5 pm on the next VDOT business day.

[2] The absence of a written confirmation from the Owner to a Contractor's written request for confirmation of a verbal instruction shall constitute confirmation of the verbal instruction.

PROCESS GUIDELINES FOR REQUESTS GENERATED BY THE OWNER

Process	Situation	Normal resolution process		Escalated process		Final resolution
		By	Within (calendar days)	By	Within	
1. RFI	Requests the Contractor to supply information to better understand or clarify a certain aspect of the work. (RFI)	Contractor's Project Superintendent	• Action: 14 days (or appropriate written Action Plan)	Contractor's Project Manager	7 days	Submit RCA or CCD
2. RCA	Requesting the Contractor take certain action(s) that is in the best interests of the project and/or is required for proper completion of a portion of the work or for project completion. (RCA)	Contractor's Project Superintendent	• Response or Action to safety and environmental issues: 1 day • Otherwise acknowledge: 3 days [1] • Action: 14 days (or appropriate Action Plan)	Contractor's Project Manager	7 days	Submit CCD
3. CCD	Instructs the Contractor to perform work beyond that specified or envisioned in the original contract and undertakes action(s) to make an equitable adjustment to the contract. (CCD)	Contractor's Project Superintendent	• Acknowledge: 3 days [1] • Action: 30 days	CEO or their designee**	7 days	Established dispute resolution and termination process

[1] Process initiated on the last business day of a week shall be acknowledged before 5 p m on next project business day.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

S102D2B-0706

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
BIDDING

August 7, 2006

SECTION 101.02—TERMS of the Specifications is amended as follows:

SEALED Bids Will Be Received Until 3:00 p.m. on September 14, 2006 For Furnishing The Services Described Herein, And Then Opened In Public at 3:00 p.m., September 15, 2006.

All Inquiries For Information Should Be Directed To: Michael G. Baxter, Director of Facilities: Phone: (804) 367-0048, Fax: (804) 367-6676, E-Mail: Michael.Baxter@Dmv.Virginia.Gov.

IF BIDS ARE MAILED, SEND DIRECTLY TO ISSUING AGENCY, Department of Motor Vehicles, 2300 West Broad Street, Richmond, VA 23220. IF BIDS ARE HAND DELIVERED, DELIVER TO: Department of Motor Vehicles, Facilities Services and Planning Administration, 2300 West Broad Street, Security Desk, Richmond, Virginia 23220.

IDENTIFICATION OF BID ENVELOPE: If a special envelope is not furnished, or if return in the special envelope is not possible, the signed bid should be returned in a separate envelope or package, sealed and identified as follows:

From: _____	September 14, 2006	3:00 p.m.
Name of Bidder	Due Date	Time
_____	2006-74 -FSPA	
Street or Box Number	IFB No.	
_____	Concrete Pavement Replacement	
City, State, Zip Code	IFB Title	

Name of Contract Officer: Michael Baxter, Director of Facilities

The use of priority or express mail delivery services with tracking is encouraged. Any Bidder using regular mail services takes the risk that the envelope, even if marked as described above, may be inadvertently opened and the information compromised which may cause the bid to be disqualified. Bids may be hand delivered to the designated location in the office issuing the solicitation. No other correspondence or other bids should be placed in the envelope.

Bid is replaced by the following:

The offer of a bidder, submitted by sealed proposal to perform the work and furnish the materials and labor at the prices set forth therein; valid only when properly signed and guaranteed.

Contract, the first sentence is replaced with the following:

The Contract Document executed between the Department and the Contractor that sets forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, furnishing of materials and labor, and the basis of payment.

Proposal is replaced by the following:

The document sent by the Department to prospective bidders or personally obtained by prospective bidders that describes the work for which bids will be accepted which includes the forms on which the Department requires bids to be submitted for the work described.

SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS of the Specifications is amended as follows:

Section 102.01—Prequalification of Bidders is amended to include the following:

eVA BUSINESS-TO-GOVERNMENT VENDOR REGISTRATION: Bidders are not required to be registered with "eVA Internet e-procurement solution" at the time bids are submitted, however, prior to award, the lowest responsive and responsible bidder must be registered with "eVA Internet e-procurement solution" or the bid will be rejected. Registration shall be performed by accessing the eVA web site portal www.eva.state.va.us, following the instructions and complying with the requirements therein. The following fees, services and bidding requirements shall apply:

(a) **eVA Basic Vendor Registration Service:** A $25 Annual Fee is required. Also required is a transaction fee specified herein. eVA Basic Vendor Registration Service will include electronic order receipt, vendor catalog posting, and on-line registration. Also included in this service is an electronic bidding system for use with goods and services but not for construction. In addition the ability to research eVA historical procurement data will be included services as they become available. All bidders submitting bids to the Department for construction projects shall use the Bid Express internet bidding system.

(b) **eVA Premium Vendor Registration Service:** A $25 Annual Fee is required. Also required is a transaction fee specified herein. eVA Premium Vendor Registration Service will include all services and bidding requirements of the eVA Basic Vendor Registration Service for construction projects. In addition, automatic email or fax notification of solicitations and amendments will be included services as they become available.

(c) For orders issued prior to July 1, 2006, a transaction fee of $500 or one percent of the Contract total, whichever is less, is required per awarded contract.

(d) For orders issued on or after July 1, 2006, transaction fees are required as follows:

1. DMBE-certified Woman-Owned Businesses: $500 or one percent of the Contract total, whichever is less, per order.

2. DMBE-certified Minority-Owned Businesses: $500 or one percent of the Contract total, whichever is less, per order.

3. Other Businesses not specified in 1 or 2 herein: $1500 or one percent of the Contract total, whichever is less, per order.

Section 102.02—Content of Proposal is amended to replace the first sentence of the second paragraph with the following:

Attachments to the proposal will be considered a part of the bid.

Section 102.05—Preparation of Bid is amended as follows:

The first paragraph is replaced with the following**:**

The bidder shall submit his bid by sealed proposal. The bidder shall furnish a unit or lump sum price as called for in the proposal, in numerical figures, for each pay item listed. The bidder shall also show the products of the unit prices and quantities in numerical figures in the column provided for that purpose and the total amount of the bid. Bids shall be signed by authorized agents of the company.

The fourth paragraph is replaced with the following:

> The bid shall be signed by the individual, one or more members of a partnership, or one or more of the officers of a corporation, whichever is applicable. For a joint venture, the bid shall be signed by each individual involved, each partnership through one or more of its members, or each corporation through one or more officers of the corporation, whichever is applicable.

Section 102.06—Irregular Bids is amended in the first paragraph as follows:

Section 102.06(b) is deleted.

Section 102.06(l) is replaced with the following:

> if any attachments included in the bid are detached or altered when the bid is submitted except as otherwise provided for herein

Section 102.06(j) is replaced with the following:

> if bids are submitted showing a designation for a project other than the project for which the bid is made

Section 102.10(a) Standard Withdrawal is amended to add the following:

Bids may be withdrawn as allowed by the electronic bidding system until bid closing.

Section 102.12—Public Opening of Bids is replaced by the following:

Bids will be opened and read publicly at the time and place specified in the Notice of Advertisement. Interested parties are invited to be present.

S106A2B-0105

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 106—CONTROL OF MATERIAL

September 30, 2004

SECTION 106—CONTROL OF MATERIAL of the Specifications is amended as follows:

Section 106.01—Source of Supply and Quality Requirements is amended as follows:

The last sentence of the first paragraph is replaced with the following:

The Contractor's statement shall be electronically submitted by use of Form C-25 and shall be identified by the complete state project number, and all items or component materials shall be identified by the specific contract item number and the specification reference shown in the Contract.

Section 106.03—Local Material Sources (Pits And Quarries) is amended as follows:

The fourth paragraph is replaced with the following:

Local material pits and quarries shall not be opened or reopened without authorization by the Engineer. The Contractor shall submit for approval a site plan, including, but not limited to, (1) the location and approximate boundaries of the excavation with a slope gradient of 3:1 or greater; (2) procedures to minimize erosion and siltation; (3) provision of environmentally compatible screening; (4) restoration; (5) cover vegetation; (6) other use of the pit or quarry after removal of material, including the spoil pile; (7) the drainage pattern on and away from the area of land affected, including the directional flow of water and a certification that all receiving channels shall comply with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations; (8) location of haul roads and stabilized construction entrances if construction equipment will enter a paved roadway; (9) constructed or natural waterways used for discharge; (10) a sequence and schedule to achieve the approved plan and; (11) the total drainage area for temporary sediment traps and basins shall be shown. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area of 10,000 square feet or greater. Sediment basins are required if the runoff from a watershed area of three acres or more flows across a disturbed area of 10,000 square feet or greater. The Contractor shall design, construct, and maintain the sediment trap or basin to accommodate the anticipated sediment loading from the land-disturbing activity. The Contractor shall certify that the sediment trap or basin design is in compliance with the Virginia Erosion and Sediment Control Regulations, all local, state, and federal laws and Section 107.14. Once a sediment trap or basin is constructed, the dam and all outfall areas shall be immediately stabilized.

The eighth paragraph is amended to replace the second sentence with the following:

The Department will withdraw approval for the use of the site and may cause the Contractor to cease all contributing operations and direct his efforts toward corrective action or may perform the work with state forces or other means as determined by the Engineer.

Section 106.04—Disposal Areas is amended as follows:

The third paragraph is replaced with the following:

Prior to VDOT approving a disposal area, the Contractor shall submit a site plan. The plan shall show (1) the location and approximate boundaries of the disposal area, (2) all procedures to

minimize erosion and siltation, (3) haul roads including all stabilized construction entrances if construction equipment will enter a paved roadway, (4) provision for environmentally compatible screening, (5) restoration of and permanent cover vegetation in accordance with the Roadside Development Sheet for the area following the deposit of material, (6) the drainage pattern on and away from the area affected, including constructed or natural waterways used for drainage and calculations to determine the need for channel improvements if the natural channel will not accommodate the 2-year storm or the man-made channel will not accommodate the 10-year storm in accordance with the Virginia Erosion and Sediment Control Regulations, (7) the streams or tributaries receiving the discharge, (8) a sequence and schedule to complete the work, and (9) total drainage area for temporary sediment traps or basins. Sediment traps are required if the runoff from a watershed area of less than three acres flows across a disturbed area of 10,000 square feet or greater. Sediment basins are required if the runoff from a watershed area of 3 acres or more flows across a disturbed area of 10,000 square feet or greater. The Contractor shall design, construct and maintain the sediment trap or basin to accommodate the anticipated sediment loading from the land disturbing activity. Costs for applying seed, lime, fertilizer, and mulch, reforestation, drainage, erosion and siltation control, regrading, haul roads, and screening for disposal areas and pits shall be included in the contract price bid for the type of excavation or other appropriate items. The Contractor shall certify that the sediment trap or basin design is in compliance with the Virginia Erosion and Sediment Control Regulations, all local, state, and federal laws and Section 107.14. Once the sediment trap or basin is constructed, the dam and all outfall areas shall be stabilized immediately.

The fifth paragraph is amended to replace the second sentence with the following:

The Department will withdraw approval for the use of the site and may cause the Contractor to cease all contributing operations and direct efforts toward corrective action or may perform the work with state forces or other means determined by the Engineer.

Section 106.04 (c) Organic Materials is replaced by the following:

(c) **Organic materials** such as tree stumps and limbs (not considered merchantable timber), roots, rootmat, leaves, grass cuttings, or other similar materials shall be chipped or shredded and used on the project as mulch, given away, sold as firewood or mulch, burned at the Contractor's option if permitted by local ordinance, or disposed of at an approved facility licensed to receive such materials. Organic material shall not be buried in state rights of way or in an approved disposal area.

Section 106.04 (e) Inorganic Materials is amended to delete the third paragraph.

Section 106.04 (g) Disposal Areas is amended to add the following:

(g) **Other materials** such as antifreeze, asphalt (liquid), building forms, concrete with reinforcing steel exposed, curing compound, fuel, hazardous materials, lubricants, metal, metal pipe, oil, paint, wood or metal from building demolition, or similar materials shall not be disposed of at an approved disposal area but may be disposed of at a landfill licensed to receive such material.

Section 106.07 (c) Plant Inspection is amended to replace the third paragraph with the following:

The Contractor shall furnish, install, maintain, and replace, as conditions necessitate, testing equipment specified by the appropriate ASTM, AASHTO method or VTM being used and provide necessary office equipment and supplies to facilitate keeping records and generating test reports. The Contractor's technician shall maintain current copies of test procedures performed in the laboratory. The Contractor shall calibrate or verify all balances, scales and weights associated with testing performed as specified in AASHTO R 18. The Contractor shall also provide and maintain an approved test stand for accessing truck beds for the purpose of sampling and inspection. The Department may approve a single laboratory to service more than one plant belonging to the same Contractor.

Section 106.08—Storing Materials is amended to add the following paragraph:

Chemicals, fuels, lubricants, bitumens, paints, raw sewage, and other harmful materials as determined by the Engineer shall not be stored within any floodplain. Chemicals, fuels, and lubricants, when stored out of doors, shall have an impoundment around each separate storage container or one impoundment around several storage containers of a volume sufficient to hold the maximum chemical, fuel, or lubricant the container(s) is capable of holding. The impoundment shall be lined with an impervious liner and shall have a release valve which shall be kept closed during all operations but may be opened to release rain water following storm events provided no chemical, fuel, or lubricant has contaminated the rain water.

S107D0B-0503

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 107—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

January 27, 2003cc

SECTION 107—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC of the Specifications is amended as follows:

Section 107.13 Responsibility For Damage Claims is replaced by the following:

The Contractor shall indemnify and save harmless the State, the Board, and its officers, agents, and employees, as well as the city, town, county, or other municipality in which the work is performed and their officers, agents, and employees, from suits, actions, or claims brought for or on account of any injuries or damages received or sustained by any person, persons, or property resulting from or arising out of the work performed by the Contractor, or by or in consequence of any neglect in safeguarding the work, through the use of unacceptable materials in the construction or the improvement, or resulting from any act or omission, neglect, or misconduct of the Contractor; or by or on account of any claims or amounts recovered by infringement of any patent, trademark, or copyright. The Commissioner may retain as much of the monies due the Contractor under and by virtue of his Contract as the Commonwealth considers necessary to ensure that a fund will be available to pay a settlement or judgment of such suits, actions, or claims. If no monies are due, the Contractor's surety will be held until all such claims and actions have been settled and suitable evidence to that effect has been furnished the Board. Any extension of time granted the Contractor, in which to complete the Contract shall not relieve him or his surety of this responsibility.

It is not intended by any of the provisions of any part of the Contract to create the public or any member thereof as a third party beneficiary hereunder or to authorize anyone not a party to the Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the Contract.

The Contractor shall comply with all requirements, conditions, and terms of the Contract, including but not limited to, environmental permits, commitments identified within the Contract, and applicable environmental laws. The Contractor shall not cause damage, except as allowed under the terms of the contract, or as allowed under applicable permits or laws, to the Commonwealth's air, water, or other natural resources, or cause damage to adjacent or off-site property.

When any act, omission, or other action of the Contractor occurs, which violates the requirements, conditions or terms of the Contract, and affects the health, safety, or welfare of the public or the Commonwealth's natural resources, the Engineer will direct the Contractor to take prompt action to repair, replace, or restore the damage or injury within a reasonable time frame established by the Engineer. If the Contractor fails to make such repair, replacement, or restoration within the established time frame, the Engineer will have the damage or injury repaired, replaced, or restored and will deduct the cost of such repair, replacement, or restoration from monies due the Contractor.

If the Department determines by its own investigation that injury or damage has occurred as a result of work performed or neglected by the Contractor, the Department may suspend the Contractor from future bidding or initiate debarment in a manner consistent with state law, and Department regulations and policies. Injury is defined as harm or impairment to persons or natural resources. Damage is defined as the loss or harm resulting from injury to person or property. In addition, the Department may recover either (i) the loss or damage that the Department suffers as a result of such act, omission or other action or (ii) any liquidated damages established in such contract plus (iii) reasonable attorney's fees, expert witness fees, staff salaries, and equipment charges associated with any investigation.

Upon a finding against the Contractor by the Department, the Contractor shall be responsible for and shall reimburse the Department for all expenses associated with the injury or damage. Expenses include, but are not limited to: investigating the act, omission or other action, financial penalties incurred by the Department as

a result of the injury or damage, salary and expenses incurred by employees or consultants of the Commonwealth, road user expenses as determined by the Department due to damage or loss of use of the project area, attorney fees, and expert witness fees. The Department may deduct the reimbursement of expenses from any payments owed the Contractor.

Upon determination by the Department of egregious or repetitious acts, omissions or other actions related to injury or damage to person or property, the Contractor shall be responsible for and shall reimburse the Department for all expenses associated with the investigation as shown herein, and the Department will impose other appropriate actions, as permitted by law, policy and Specifications, such as but not limited to, suspension of work, removal from the bidders' list, or debarment.

Once determination is made that injury or damage has resulted in an action against the Contractor, the Contractor shall have the right of appeal through the Director of Planning and the Environment.

Should any cost remain in dispute after appeal to the Director of Planning and the Environment, resolution shall be handled in accordance with the requirements of Section 105.16 of the Specifications.

Section 107.14(a) Erosion and Siltation is amended as follows:

The first paragraph is amended to replace the second sentence with the following:

Siltation control measures shall be applied to erodible material exposed by any activity associated with construction, including clearing or grubbing, but not limited to local material sources, stockpiles, disposal areas, and haul roads and shall be functional before land-disturbing activities take place.

The fourth paragraph is replaced with the following:

The Contractor shall have, within the limits of the project, an employee certified by the Department in Erosion and Sediment Control who shall inspect erosion and siltation control devices and measures for proper installation and deficiencies immediately after each rainfall, at least daily during prolonged rainfall, and weekly when no rainfall event occurs and promptly document and report his findings to the Inspector. Failure of the Contractor to maintain a certified employee within the limits of the project will result in the Engineer suspending work related to any land disturbing activity until such time as a certified employee is present on the project. Failure on the part of the Contractor to maintain appropriate erosion and siltation control devices in a functioning condition may result in the Engineer notifying the Contractor in writing of specific deficiencies. Deficiencies shall be corrected immediately. If the Contractor fails to correct or take appropriate actions to correct the specified deficiencies within 24 hours after receipt of such notification, the Department may do one or more of the following, require the Contractor to suspend work in other areas and concentrate efforts toward correcting the specified deficiencies, hold progress estimates, or proceed to correct the specified deficiencies and deduct the entire cost of such work from monies due the Contractor.

Section 107.14(b) Pollution 1. Water is amended as follows:

The second paragraph is replaced with the following

Construction discharge water shall be filtered to remove deleterious materials prior to discharge into state waters. Filtering shall be accomplished by the use of a standard dewatering basin or a dewatering bag. Dewatering bags shall conform to the requirements of Section 245 of the Specifications. During specified spawning seasons, discharges and construction activities in spawning areas of state waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy equipment shall be placed on mats. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved nonerodible materials and shall be removed by the Contractor to natural ground when the Engineer so directs.

The third paragraph is amended to add the following:

The Contractor shall provide the Engineer a contingency plan for reporting and immediate actions to be taken in the event of a dump, discharge, or spill immediately after he has mobilized to the project site.

The sixth paragraph is amended to add the following:

Stabilization of the streambed and banks shall occur immediately upon completion of work or if work is suspended for more than 15 days.

The eighth paragraph is amended to add the following:

Stabilization of the streambed and banks shall occur immediately upon completion of work or if work is suspended for more than 15 days.

The ninth paragraph is replaced with the following:

Temporary bridges or other minimally invasive structures shall be used wherever the Contractor finds it necessary to cross a stream more than twice in a 6 month period, unless otherwise authorized by water quality permits issued by the Army Corps of Engineers, Virginia Marine Resources Commission or the Virginia Department of Environmental Quality for the contract.

S107E0B-0105

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS CONTROL AREAS

March 10, 2004

VOC Emission Control Area - The Contractor is advised that this project may be located in a volatile organic compound (VOC) emission control area identified in the State Air Control Board Regulations (9 VAC 5-20) and in Table 1 below. Therefore, the following limitations may apply:

- Open burning is prohibited during the months of June, July and August (Northern Virginia, Hampton Roads and Richmond VOC Emission control areas only).
- Cutback asphalt is prohibited April through October except when use or application as a penetrating prime coat or tack is necessary. (Applies to all VOC control areas)

Table 1. Virginia Department of Environmental Quality Volatile Organic Compound (VOC) Emissions Control Areas*

VOC Emission Control Area	VDOT District	Jurisdiction
Northern Virginia	NOVA	Alexandria City Arlington County Fairfax County Fairfax City Falls Church City Loudoun County Manassas City Manassas Park City Prince William County
Northern Virginia	Fredericksburg	Stafford County
Hampton Roads	Hampton Roads	Chesapeake City Hampton City James City County Newport News City Norfolk City Poquoson City Portsmouth City Suffolk City Virginia Beach City Williamsburg City York County
Richmond	Richmond	Charles City County Chesterfield County Colonial Heights City Hanover County Henrico County Hopewell City Richmond City
Western Virginia	Staunton	Frederick County Winchester
Western Virginia	Salem	Roanoke County Botetourt County Roanoke City Salem City

* Regulations for the Control and Abatement of Air Pollution (9 VAC 5-20-206)

See the Virginia Code (9 VAC 5 Chapter 40 – Article 39 (Emission Standards for Asphalt Paving Operations (Rule 4-39)) and Article 40 (Emission Standards for Open Burning (Rule 4-40)) for further clarification. In addition to the above requirements, the Contractor's attention is directed to the requirements of Section 107.14 of the Specifications, because other air pollution requirements may also apply.

S107F1B-0105

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
STORM WATER POLLUTION PREVENTION PLAN

June 2, 2004

INTRODUCTION

The Storm Water Pollution Prevention (SWPP) Plan, also referred to as the Erosion and Sediment Control (ESC) Plan, Storm Water Management (SWM) Plan and related Road and Bridge Specifications and Standards contained within all contract documents, are required for all land-disturbing activity of 10,000 square feet or greater (2,500 square feet or greater in Tidewater Virginia).

In addition, if the land-disturbing activity is 1 acre or greater, a VPDES Construction Permit is required. The requirements of this permit are satisfied by the Contractor's compliance with the SWPP Plan terms and conditions.

The Contractor and/or Subcontractor shall be responsible for reading, understanding, and complying with the terms and conditions of the SWPP Plan as follows (where identified below, Subcontractor(s) shall comply with this special provision as their duties include ESC/SWM related contract items):

I. PROJECT IMPLEMENTATION RESPONSIBILITIES

The Contractor and/or Subcontractor is responsible for the installation, maintenance, inspection, and ensuring the functionality of all erosion and sediment control measures on a daily basis and all other stormwater and pollutant runoff control measures identified within the plans, specifications, permits, and contract documents.

The Contractor and/or Subcontractor shall take all reasonable steps to minimize or prevent any stormwater or non-stormwater discharge, which has a reasonable likelihood of adversely affecting human health, public and/or private properties.

II. CERTIFICATION REQUIREMENTS

In addition to satisfying the personnel certification requirements contained within 107.14(a), the Contractor and Subcontractor shall each certify their activities by adequately completing, signing, and submitting Form C-45 VDOT SWPP Plan Contractor and Subcontractor Certification Statement to the Engineer prior to commencing any project related land-disturbing activities, both on-site and off-site.

III. OFF SITE REQUIREMENTS

The Contractor and/or Subcontractor shall develop erosion and sediment control plan(s) and stormwater management plan(s) for submission and acceptance by the Engineer prior to usage of any support facilities, off-site borrow and disposal areas, construction materials or equipment storage areas, and other industrial storm water discharge directly related to the construction process. Such plans, upon acceptance, will become a part of and subject to the overall project plan, VPDES Construction Permit, and contract requirements.

IV. REPORTING PROCEDURES

A. Inspection Requirements

The Contractor and/or Subcontractor are responsible for conducting inspections in accordance with the requirements of Section 107.14(a). The Contractor and/or Subcontractor shall document such

inspections by completion of form C-107 (a) and (b) (Construction Runoff Control Inspection Form and Continuation Sheet) in strict accordance with directions contained within the form.

B. Unauthorized Discharge Requirements

The Contractor and/or Subcontractor shall not discharge into state waters sewage, industrial wastes, other wastes or any noxious or deleterious substances or otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, animal or aquatic life, the use of such waters for domestic or industrial consumption, for recreation or for other uses.

1. Notification of discharges or noncompliance

The Contractor and/or Subcontractor shall quickly notify the Engineer upon the discovery of or potential of any unauthorized, unusual, extraordinary, or non-compliant discharge from the construction activity, but in any case not later than 24 hours after said discovery.

2. Detailed report requirements for discharges or noncompliance

The Contractor and/or Subcontractor shall submit to the Engineer within 5 days of the discovery of the discharge a written report describing details of the discharge to include its volume, location, cause, and any apparent or potential effects on private and/or public properties or endangerment to public health, as well as steps being taken to eliminate the discharge. A completed form C-107 (a) and (b) shall be used for such reports.

C. Plans, Changes, and Deficiencies

1. Contractor SWPP Plans

The Contractor shall provide SWPP Plans that document the location and description of potential pollutant sources such as vehicle fueling, storage of fertilizers or chemicals, sanitary waste facilities, construction and waste materials etc. prior to any such pollutant sources being brought onto the project site. Such documentation shall include a description of the controls to reduce, prevent and control pollutants from these sources including spill prevention and response. The Contractor shall submit such documentation in accordance with Section 107.14(b)1 to the Engineer and, thereby, immediately becoming a component of the project SWPP Plan and subject to all corresponding requirements contained therein.

The Contractor shall ensure that plans are kept onsite at all times in accordance with Section 105.06.

2. Changes and Deficiencies

The Contractor and/or Subcontractor shall report to the Engineer when any planned physical alterations or additions are made to the construction activity or deficiencies in the project plans or contract documents are discovered that could significantly change the nature or increase the quantity of the storm water pollutants discharged from the construction activity.

C-45
7-1-03

VDOT
Stormwater Pollution Prevention (SWPP) Plan
Contractor and Subcontractor Certification Statement

Order No.: _____ Project Number: _____

Route: _____ Contract ID. #: _____

I certify under penalty of law that I understand the terms and conditions of the project contract, plans, permits, specifications and standards related to erosion and sediment control and stormwater management requirements as approved by the Virginia Department of Conservation and Recreation and the general Virginia Pollutant Discharge Elimination System (VPDES) Construction Permit (if applicable to this project) issued by the Virginia Department of Environmental Quality that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification as described in the bid document and off-site support activities.

Signature: _____

Name: _____

Title: _____

Contracting Firm: _____

Address: _____

Phone Number: _____

Address/Description of Site: _____
(Include off-site areas)

_____

Certified on this date: _____

(Note: This form must be returned with performance and payment bonds)

S109C0B-0702

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 109—PARTIAL PAYMENT

October 1, 1999
Reissued July 9, 2002

SECTION 109.07 PARTIAL PAYMENTS of the Specifications is amended as follows:

The third sentence in the first paragraph is replaced by the following:

> Partial payments will be made once each month for the work performed in accordance with the contract requirements except when the sum of the work performed during the month's estimate period is less than $500.00.

The fifth paragraph is replaced with the following:

> The Department will deduct an amount equivalent to 5 percent of the monthly progress estimate on all **unbonded** contracts and will retain such monies until final payment is made in accordance with the requirements of Section 109.09. The balance less all previous partial payments will be vouchered for payment. After 50 percent of the total contract value has been completed and 5 percent has been retained on this amount, the Department will make the remaining partial payments in full provided the Contractor is maintaining a satisfactory rate of progress. *Total contract value* will be considered to mean the original amount of the contract except when the contract is increased or decreased by more than 20 percent, in which case, the adjusted total will be considered as the total contract value. **The Department will not deduct retainage on bonded contracts provided the Contractor achieves and maintains a satisfactory rate of progress.**

The sixth paragraph is replaced with the following:

> If the Contractor's progress falls more than 10 percent behind the latest approved progress schedule **on either a bonded or unbonded contract***,* the Contractor may be notified that if the next monthly progress estimate shows a delinquency of more than 10 percent, progress will be considered unsatisfactory **and 5 percent retainage** will be withheld each month the Contractor is behind the progress schedule by more than 10 percent.

The last sentence of the seventh paragraph is replaced with the following:

> When the percentage of time used exceeds the percentage of work completed by more than 10 percent, the Contractor may be notified that if the next monthly progress estimate shows a delinquency of more than 10 percent, progress will be considered unsatisfactory **and 5 percent retainage will be withheld on either bonded or unbonded contracts** for each month the percentage of time used exceeds the percentage of work completed by more than 10 percent.

The eighth paragraph is replaced by the following:

> **On bonded contracts**, when the Engineer determines that the Contractor's progress is considered satisfactory in accordance with these requirements, the 5 percent retainage **previously withheld because of unsatisfactory progress will be released** in the next monthly progress estimate and the remaining monthly progress estimates payments will be made in full provided satisfactory progress continues to be made. The Department will continue to deduct 5 percent retainage on unbonded contracts as provided for herein.

The tenth and eleventh paragraphs are deleted.

S211A4B-1205

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 211—ASPHALT CONCRETE MIXTURES (SUPERPAVE)

August 31, 2005

SECTION 211—ASPHALT CONCRETE of the Specifications is amended as follows:

Section 211.01—Description is amended to replace the **"ESALs"** table in the second paragraph with the following:

Mix Type	Equivalent Single Axle Load (ESAL) Range (millions)	Asphalt Performance Grade (PG)	Aggregate Nominal Maximum Size*
SM-9.0 A	0 to 3	64-22	3/8"
SM-9.0 D	3 to 10	70-22	3/8"
SM-9.0 E	Above 10	76-22	3/8"
SM-9.5 A	0 to 3	64-22	3/8"
SM-9.5 D	3 to 10	70-22	3/8"
SM-9.5 E	Above 10	76-22	3/8"
SM-12.5 A	0 to 3	64-22	1/2"
SM-12.5 D	3 to 10	70-22	1/2"
SM-12.5 E	Above 10	76-22	1/2"
IM-19.0 A	Less than 10	64-22	3/4"
IM-19.0 D	10 and above	70-22	3/4"
BM-25.0 A	All ranges	64-22	1"
BM-25.0 D	Above 10	70-22	1"

Asphalt concrete shall conform to the requirements for the type designated.

*Nominal Maximum Size is defined as one sieve size larger than the first sieve to retain more than 10 percent aggregate.

Table II-12A Aggregate Properties is replaced with the following:

AGGREGATE PROPERTIES

	Coarse Aggregate Properties			Fine Aggregate Properties	
	Coarse Aggregate Angularity (CAA)				
	CAA				
Mix Type	1 fractured Face	2 fractured Faces	F & E Percent by weight	SE	FAA
SM-9.0 A	85% min.	80% min.	10% Max*	40% min.	40% min.
SM-9.0 D	85% min.	80% min.	10% Max*	45% min.	45% min.
SM-9.0 E	95% min.	90% min.	10% Max*	45% min.	45% min.
SM-9.5 A	85% min.	80% min.	10% Max*	45% min.	45% min.
SM-9.5 D	85% min.	80% min.	10% Max*	45% min.	45% min.
SM-9.5 E	95% min.	90% min.	10% Max*	45% min.	45% min.
SM-12.5 A	85% min.	80% min.	10% Max*	45% min.	45% min.
SM-12.5 D	85% min.	80% min.	10% Max*	45% min.	45% min.

SM-12.5 E	95% min.	90% min.	10% Max*	45% min.	45% min.
IM-19.0 A	85% min.	80% min.	10% Max*	45% min.	45% min.
IM-19.0 D	95% min.	90% min.	10% Max*	45% min.	45% min.
BM-25.0 A	80% min.	75% min.	10% Max*	45% min.	45% min.
BM-25.0 D	80% min.	75% min.	10% Max*	45% min.	45% min.

*10 percent measured at 5:1 on maximum to minimum dimension.

Section 211.03—Job-Mix Formula is amended by replacing the last sentence of the first paragraph with the following:

Each approved job-mix formula shall remain in effect, provided the results of tests performed on material currently being produced consistently meet the requirements of the job-mix for grading, asphalt content, temperature, SUPERPAVE compaction results, and the requirements of Section 315.

Table II-13 ASPHALT CONCRETE MIXTURES - DESIGN RANGE is replaced with the following:

T A B L E II-13
ASPHALT CONCRETE MIXTURES-DESIGN RANGE
PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVES

Mix Type	2 in	1 1/2 in	1 in	3/4 in	1/2 in	3/8 in	No. 4	No. 8	No. 30	No.50	No.200
SM-9.0 A,D,E					100*	90-100	90 max	47-67			2-10
SM-9.5 A,D,E					100*	90-100	80 max	38-67			2-10
SM-12.5 A,D,E				100	95-100	90 max	--	34-50			2-10
IM-19.0 A,D			100	90-100	90 max	--	--	28-49			2-8
BM-25.0 A,D		100	90-100	90 max	--	--	--	19-38			1-7
C (Curb Mix)					100	92-100	70-75	50-60	28-36	15-20	7-9

Legend: SM = Surface Mixture; IM = Intermediate Mixture; BM = Base Mixture; C = Curb Mixture
* A production tolerance of 1% will be applied to this sieve, regardless of the number of tests in the lot.

Sect. 211.03(a) is amended to replace the second sentence of the first paragraph with the following:

The contractor shall have available all of the equipment outlined in AASHTO TP-4 (section 4-6) and a Department certified Asphalt Mix Design Technician.

Section 211.03(a) is amended to include the following:

The Superpave mixture shall be compacted in a gyratory compactor with an internal angle of 1.16 $\pm$ 0.02°. The internal angle shall be measured and calibrated using a cold (non-mix) device.

Section 211.03(c) is amended to delete the second sentence of the first paragraph.

Section 211.03(d) is amended to include the following:

8. Permeability test data shall be submitted in accordance with VTM-120 using either single point verification or the regression method for each surface mix having a different gradation. If the average of the permeability results from the single point verification method exceeds 150 x 10^{-5} cm/sec, or if the regression method predicts a permeability exceeding 150 x 10^{-5} cm/sec at 7.5% voids, the contractor shall redesign the mixture to produce a permeability number less than 150 x 10^{-5} cm/sec.

Section 211.03(f) is amended to replace the sixth and seventh paragraphs with the following:

Based on rut testing performed by the Department and/or field performance of the job-mix, the Engineer reserves the right to require adjustments to the job-mix formula.

Table II-14 MIX DESIGN CRITERIA is replaced with the following:

TABLE II-14
MIX DESIGN CRITERIA

Mix Type	VTM (%) Production (Note 1)	VFA (%) Design	VFA (%) Production (Note 2)	Min. VMA (%)	Fines/Asphalt Ratio (Note 3)	Number of Gyrations N Design	N Initial	N Max	Density (%) at N Initial
SM-9.0 A	2.0-5.0	75-80	70-85	16	0.6-1.3	65	7	100	≤ 90.5
SM-9.0 D	2.0-5.0	75-80	70-85	16	0.6-1.3	65	7	100	≤ 89.0
SM-9.0 E	2.0-5.0	75-80	70-85	16	0.6-1.3	65	7	100	≤ 89.0
SM-9.5 A	2.0-5.0	73-79	68-84	15	0.6-1.2	65	7	100	≤ 90.5
SM-9.5 D	2.0-5.0	73-79	68-84	15	0.6-1.2	65	7	100	≤ 89.0
SM-9.5 E	2.0-5.0	73-79	68-84	15	0.6-1.2	65	7	100	≤ 89.0
SM-12.5 A	2.0-5.0	70-78	65-83	14	0.6-1.2	65	7	100	≤ 90.5
SM-12.5 D	2.0-5.0	70-78	65-83	14	0.6-1.2	65	7	100	≤ 89.0
SM-12.5 E	2.0-5.0	70-78	65-83	14	0.6-1.2	65	7	100	≤ 89.0
IM-19.0 A	2.0-5.0	69-76	64-81	13	0.6-1.2	65	7	100	≤ 90.5
IM-19.0 D	2.0-5.0	69-76	64-81	13	0.6-1.2	65	7	100	≤ 89.0
BM-25.0 A Note 4	2.0-5.0	67-75	62-83	12	0.6-1.3	65	7	100	≤ 89.0
BM-25.0 D Note 4	2.0-5.0	67-75	62-83	12	0.6-1.3	65	7	100	≤ 89.0

Note 1: Asphalt content should be selected at 4.0 percent Air Voids,
Note 2: During production of an approved job mix, the VFA shall be controlled within these limits.
Note 3: Fines-Asphalt Ratio is based on effective asphalt content.
Note 4: Base mix shall be designed at 3.5 percent air voids. BM-25.0 A shall have a minimum asphalt content of 4.4 percent, unless otherwise approved by the Engineer. BM-25.0 D shall have a minimum asphalt content of 4.6 percent, unless otherwise approved by the Engineer.

Table II-14A RECOMMENDED PERFORMANCE GRADE OF ASPHALT is replaced with the following:

TABLE II-14A
RECOMMENDED PERFORMANCE GRADE OF ASPHALT

	Percentage RAP in Mix	
Mix Type	**0.0 - 20.0**	**Over 20.0**
SM-9.0A, SM-9.5A, SM-12.5A	PG 64-22	PG 58-28
SM-9.0D, SM-9.5D, SM-12.5D	PG 70-22	PG 64-28
SM-9.0E, SM-9.5E, SM-12.5E	PG 76-22	PG 70-28
IM-19.0A	PG 64-22	PG 58-28
IM-19.0D	PG 70-22	PG 64-28
BM-25.0A	PG 64-22	PG 64-22*
BM-25.0D	PG 70-22	PG 70-22*

*BM-25.0A mixes using more than 25% RAP shall use PG 58-22 and BM-25.0D mixes using more than 25% RAP shall use PG 64-22.

Section 211.04(c) is replaced with the following:

(c) **Types BM-25.0A and BM-25.0D** asphalt concrete shall consist of crushed stone, crushed slag, or crushed gravel and fine aggregate, slag or stone screenings or a combination thereof combined with asphalt cement.

Section 211.05—Testing is amended to replace the second and third paragraphs with the following:

The Contractor shall have a VDOT certified Asphalt Mix Design Technician for designing and adjusting mixes as necessary. The Asphalt Mix Design Technician or Asphalt Plant Technician may perform testing of asphalt mixes. The Asphalt Mix Design Technician shall be responsible for reviewing and approving the results of all testing. The Asphalt Mix Design Technician shall be available and have direct communication with the plant for making necessary adjustments in the asphalt concrete mixes at the mixing plant. The Asphalt Mix Design Technician and Asphalt Plant Technician shall each be capable of conducting any tests necessary to put the plant into operation, however, it shall be the responsibility of the Asphalt Mix Design Technician to produce a mixture within the requirements of these specifications. The Department will award certification.

Section 211.05—Testing is amended to add the following sentence to the sixth paragraph:

The Department will conduct onsite inspections so the Contractor's Asphalt Mix Design Technician can demonstrate knowledge of SUPERPAVE mix design and production requirements on Department supplied mixture.

Section 211.05—Testing is amended to replace the first sentence of the seventh paragraph with the following:

Aggregate specific gravity and aggregate property tests shall be conducted by a Department certified Aggregate Properties Technician or Asphalt Mix Design Technician on each aggregate component (including RAP) or total aggregate mixture once at design and once prior to beginning production in each calendar year.

Section 211.06—Tests is amended to replace the **"Abson Recovery"** table in the second paragraph with the following:

Mix Type	Recovered Penetration	Ductility at 77^0 F
SM-9.0A, 9.5A, 12.5A	min 35	min 40 cm
SM-9.0D, 9.5D, 12.5D	min 25	min 40 cm
IM-19.0A	min 35	min 40 cm
IM-19.0D	min 25	min 40 cm
BM-25.0A	min 35	min 40 cm
BM-25.0D	min 25	min 40 cm

NOTE: Recovered Penetration and Ductility shall not be performed on SM-9.5E, 12.5E, and all (M) and (S) mixes.

Section 211.07—Plant Inspections is amended to include the following:

In addition, the Contractor shall have all Laboratory Scales and Gyratory Compactors calibrated once a year by an independent source. The Contractor shall maintain the calibration records for 3 years.

Section 211.08—Acceptance is amended to replace the fourth sentence of the first paragraph with the following:

Where the Contractor's test results indicate that the mixture conforms to the gradation, asphalt cement content and mix temperature requirements of the Specifications, the mixture will be acceptable for these properties; however, nothing herein will be construed as waiving the requirements of Sections 106.06, 200.02, 200.03, and 315 of the Specifications or relieving the Contractor of the obligation to furnish and install a finished functional product that conforms to the requirements of the Contract.

Section 211.08—Acceptance is amended to replace the second sentence of the second paragraph with the following:

Unless otherwise approved, samples shall be obtained from the approximate center of truckloads of material.

Section 211.09—Adjustment System is amended to replace the third paragraph with the following:

The Contractor shall control the variability of his product in order to furnish a uniform mix. When the quantity of any one-type material furnished a project exceeds 4000 tons, the variability of the total quantity furnished will be determined on the basis of the standard deviation for each sieve size and the asphalt content. In the event the standard deviation is within the ranges shown in Table II-16, the unit bid price for the material will be adjusted as indicated herein. Adjustments for standard deviation computations will not be made on more than two job mixes for the same type material.

Section 211.12(a) **Certification for Plant Operation and Sampling** is amended to replace the first paragraph with the following:

There shall be a certified Asphalt Plant Technician for sampling material at the plant.

Section 211.12(h) **Equipment for Preparation of Asphalt Material** is amended to include the following:

A sampling valve shall be provided for sampling of each asphalt storage tank used in production of the mix. If there are multiple storage tanks, then a dedicated valve for each tank shall be provided.

Section 211.15—Initial Production is amended by replacing the first sentence of the first paragraph with the following:

At the start of production of a mix not previously used on a state roadway, the Contractor shall place 100 to 300 tons or up to one day’s production as directed by the Engineer at an approved site (may be project site) so the Engineer can examine the mixing plant's process control, the Contractor’s placement procedures, surface appearance, of the mix compaction patterns of the Contractor’s roller(s) and correlation of the nuclear density device.

Table II-13A MINIMUM AND MAXIUM BOUNDARIES OF RESTRICTED GRADATION is deleted.

Table II-15 PROCESS TOLERANCE and its footnote are amended by deleting the last sentence of the footnote and the accompanying subtable that is associated with it.

S217A0B-1103

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
LOW PERMEABILITY CONCRETES

December 2, 2002c

SECTION 217 of the Specifications is amended as follows:

Section 217.02 (h) is replaced with the following:

(h) Fly ash shall conform to the requirements of Section 241. Class F fly ash shall be between 20 percent and 25 percent by mass of the cementitious material. However, no more than 15 percent of the Portland cement of a standard mixture shall be replaced.

Section 217.02 (k) is amended to add the following:

(k) Silica fume shall conform to the requirements of AASHTO M307 or ASTM C1240. Silica fume shall replace between 7 percent and 10 percent by mass of the cementitious material. Only silica fume at the rate of 3 percent to 7 percent may be added to all combinations to reduce the early permeability after the approval of the Engineer.

Section 217.08 is amended to add the following:

(c) Quality Assurance for Low Permeability Concrete (for Concrete in Bridges Only):

General:

At least two trial batches, using job materials, with permissible combination of cementitious materials shall be prepared, and test specimens shall be cast by the Contractor and tested by the Department for permeability and strength at least a month before the field application. The permeability samples shall be cylindrical specimens with a 4-inch diameter and at least 4-inches in length. They shall be moist-cured as the strength cylinders for acceptance except that the last 3 weeks of cure shall be at 100 degrees Fahrenheit $\pm$ 10 degrees Fahrenheit. Cylinders shall be tested at 28 days in accordance with AASHTO T 277. The test value shall be the result of the average values of tests on two specimens from each batch. Permeability values obtained from trial batches shall be 500 coulombs below the maximum values specified in Table II-17.

Acceptance Tests:

A quality assurance and acceptance procedure that provides for periodic tests of the field concrete for permeability using AASHTO T 277 shall be established. This should include provisions for testing frequency; the range of coulomb values for which full or partial payments would be made; and the values that would require corrective measures to be taken, or rejection of the concrete, should be stated. The following are quality assurance procedures for field evaluations:

A lot shall be a day's production of concrete for the job and shall be used for statistical acceptance procedure for bridge concrete. For each set of cylinders made for compressive strength tests, two additional cylinders shall be made for the permeability test. The Contractor shall be responsible for making all test cylinders, and the Department shall be responsible for the testing of the specimens.

For all classes of concrete, initially one set of permeability cylinders shall be tested for each lot in accordance with AASHTO T 277. If the average coulomb value for this test is less than the coulomb value shown in Table II-17, the lot will be accepted at the full bid price.

If the average test result exceeds the coulomb value in Table II-17, payment for the concrete in that element shall be reduced 0.005 percent for each coulomb above the coulomb value in Table II-17, however, the reduction in price will not exceed 5 percent of the bid price of the concrete. Concrete with a coulomb value that exceeds the maximum required in Table II-17 by 1000 coulomb will be rejected. However, bridge deck with the coulomb value exceeding the maximum required by over 1000 coulomb may be accepted by the Engineer at 95 percent of the bid price if it has the required strength and meets other specification requirements, and the Contractor applies, at his own expense, an approved epoxy concrete overlay to the top of the deck. In such case deck grooving will not be required. The adjustment to the roadway grade shall be made as required by the Engineer at the Contractor's expense.

Similarly, concrete in abutments and pier caps with coulomb value exceeding the maximum required in Table II-17, by more than 1000 coulomb may be accepted at 95 percent of the bid price if it has the required strength and meets other specification requirements, and the Contractor applies at his own expense, an approved epoxy, Type EP-3B and EP-3T in conformance with the requirements of Section 243.02, on top of the pier cap or abutment seat.

The reduction in the bid prices mentioned above shall be applied to the total volume of concrete in bridge members, eg. deck slab of a single span, deck slab of a group of continuous spans, pier or abutment, for which any portion of the concrete in the member did not meet the permeability test requirements.

SECTION 404 of the Specifications is amended as follows:

Section 404.03(k) 1. Curing Concrete is replaced with the following:

1. **Curing Bridge Deck and Overlay Concrete:** Bridge deck and overlay concrete, including latex modified concrete, shall be moist cured for a minimum of 7 days and until 70 percent of f′c is reached. Moist curing shall be maintained by wet burlap (keep wet) for the duration of the curing and covered with plastic sheeting. Immediately after screeding and until the application of wet burlap and white plastic sheeting (opaque and transparent sheeting may be used when the air temperature falls below 50°F), no surface of the freshly placed concrete shall be allowed to dry. During moist curing, the concrete temperature shall be maintained above 50°F at the outer most surfaces of the concrete mass. Immediately after removing the burlap and plastic sheeting (except for latex-modified concrete), white pigmented curing compound shall be applied while the surface is damp but has no free water standing on it. The application rate shall be 100 to 150 square feet per gallon.

Section 404.03(l) 1. Weather is amended to replace the 4th paragraph with the following:

Protection shall be provided to prevent rapid drying of concrete as a result of low humidity, high wind, higher concrete temperatures than atmospheric temperatures, or combinations thereof. The Contractor shall perform evaporation rate testing for bridge deck placements and concrete overlays. Immediately after screeding and until the application of wet burlap and white polyethylene sheeting, no surface of the freshly mixed concrete shall be allowed to dry. Fogging, with pressure sprayers acceptable to the Engineer and sufficient to maintain a moist surface, shall be required. The protective measures taken shall be sufficient to maintain an evaporation rate at or below 0.10 pounds per square-foot per hour for normal concrete bridge deck placements or 0.05 pounds per square-foot per hour for concrete overlays over the exposed surface of the concrete. Other preventative measures described in ACI 308 can also be used in addition to fogging. Evaporation retardant films may be applied in a fine mist immediately after screeding to ensure that the surface remains wet until covered. If such materials are used, there shall be no disturbance of the concrete surface after placement of the retardant film and such film shall not be intermixed with the surface mortar. Placement of concrete shall be regulated at a rate such that the finishing operations can be completed and the wet burlap and polyethylene sheeting are placed prior to any drying of the concrete. If plastic shrinkage cracking occurs due to the Contractor's negligence or failure to follow specification requirements, the Engineer may direct the Contractor to

make repairs by epoxy injections, concrete removal and replacement or other methods approved by the Engineer at no additional cost to the Department.

Section 404.04 is amended to add after the fifth paragraph the following:

Consolidation: In deck placements, internal vibrators and screeds with vibrating element shall be used. The minimum frequency of the vibrating element shall be 3,000 vibrations per minute. Internal vibration shall be required along transverse and longitudinal edges and joints and areas where the thickness of concrete exceeds 3 inches.

SECTION 405 of the Specifications is amended as follows:

Section 405.05(c) is amended to replace the third paragraph with the following:

Both internal vibrators and external form vibrators shall be used for concrete with strength equal or exceeding 8000 pounds per square inch. The use of external vibration for other concrete will be at the option of the Contractor with approval of the Engineer. Improper placing and vibrating may be cause for rejection.

Section 405.05(f) 4. Is replaced by the following:

The temperature rise in the curing enclosure shall be uniform, with a rate rise of not more than 80 degrees Fahrenheit per hour. Concrete shall be cured at a steam temperature of not more than 180 degrees Fahrenheit, with the steam temperature uniform throughout the curing enclosure, and with a variation of not more than 20 degrees Fahrenheit. Maximum concrete temperature during the curing cycle shall be 190 degrees Fahrenheit. Approved recording thermometers shall be placed so that temperatures can be recorded at a minimum of two locations spaced at or near the third of the length in each curing enclosure and at least one sensor shall measure the temperature in the concrete.

Continued next page

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

TABLE II-17 Requirements for Hydraulic Cement Concrete of the Specifications is replaced by the following:

TABLE II-17
Requirements for Hydraulic Cement Concrete

Class of Concrete	Design Min. Laboratory Compressive Strength at 28 Days (f'c) (psi)	Design Max. Laboratory Permeability at 28 Days (Coulombs)	Nominal Max. Aggregate Size (in)	Min. Cementitious Content (lb./cu yd)	Max. Water /Cementitious Mat. (lb. Water/lb. Cement)	Consistency (in of slump)	Air Content (percent)[1]
A5 Prestressed and other special designs[2]	5,000 or as specified on the plans	1,500	1	635	0.40	0-4	4 1/2 ± 1 1/2
A4.5	4,500	2,500	1	635	0.45	2-4	6 1/2 ± 1 1/2
A4 General	4,000	2,500	1	635	0.45	2-4	6 1/2 ± 1 1/2
A4 Post & rails[3]	4,000	2,500	0.5	635	0.45	2-5	7 ±- 2
A3.5 General	3,500	2,500	1	588	0.49	1-5	6 ± 2
A3 General	3,000	3,500	1	588	0.49	1-5	6 ± 2
A3 Paving	3,000	3,500	1	564	0.49	0-3	6 ± 2
B2 Massive or lightly reinforced	2,200	N.A.	1	494	0.58	0-4	4 ± 2
C1 Massive Unreinforced	1,500	N.A.	1	423	0.71	0-3	4 ± 2
T3 Tremie seal	3,000	N.A.	1	635	0.49	3-6	4 ± 2
Latex hydraulic cement concrete overlay[4]	3,500	1,500	0.5	658	0.40	4-6	5 ± 2
Silica fume concrete overlay	5,000	1,500	0.5	658[5]	0.40	4-7	6 ± 2

[1] When a high-range water reducer is used, the target air content shall be increased 1 percent and the slump shall not exceed 7 inches.

[2] When Class A5 concrete is used as the finishing bridge deck riding surface, or when it is to be covered with asphalt concrete with or without waterproofing, the air content shall be 5 1/2 ± 1 1/2 percent.

[3] When necessary for ease in placement, aggregate No. 7 shall be used in concrete posts, rails, and other thin sections above the top of bridge deck slabs.

[4] The latex modifier content shall be 3.5 gallons per bag of cement. Slump shall be measured approximately 4.5 minutes after discharge from the mixer.

[5] Minimum 7 percent silica fume replacement by weight of the total cementitious material.
Note: Contractor may substitute a higher class of concrete for that specified at his expense.

S244A0B-0503

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 244—ROADSIDE DEVELOPMENT MATERIALS

January 27, 2003c

SECTION 244—ROADSIDE DEVELOPMENT MATERIALS is amended as follows:

Section 244.02 - Detail Requirements is amended as follows:

Section 244.02(d) Fertilizers is replaced with the following:

1. **Fertilizer for seeding, sodding, sprigging, and plugging** shall have a guaranteed 1-2-1 ratio and a 15-30-15 analysis with a minimum 30% of the nitrogen from either a slow release or slowly soluble source with the remainder of the nitrogen from urea or ammonium nitrate. The following types of slow release or slowly soluble nitrogen fertilizers can be used: urea formaldehyde (UF){ureaform, methylene urea, and methylene diurea/dimethylene triurea}, isobutylidene dirurea (IBDU), sulfur coated urea (SCU) and polycoated urea (PCU). Urea formaldehyde products shall have a minimum activity index of 40%. The IBDU minimum "size guide number" (SGN) shall be 230. All UF and IBDU products shall indicate the slow release/slowly available nitrogen source on the fertilizer analysis label as Water Insoluble Nitrogen (WIN). The polycoated and sulfur coated ureas shall have a minimum of 3 month release duration for the total product. The phosphorous content of the fertilizer shall be triple superphosphate or diamonnium phosphate. The potassium content of the fertilizer shall be potassium chloride commonly known as muriate of potash. All slow release or slowly soluble fertilizers can be applied with a hydraulic seeder except for SCU.

   The fertilizer shall be uniform in composition, free flowing, and suitable for application with approved equipment. The fertilizer shall be delivered to the project in bags or other convenient containers, each fully labeled, and shall conform to all applicable state and federal laws and regulations. Additional nutrients shall be added only when specified. All fertilizer shall be subject to testing by the Virginia Department of Agriculture and Consumer Services. The Department reserves the right to reject fertilizer materials that do not meet these specifications or to be compensated in accordance with the requirements of the Virginia Fertilizer Law. Other fertilizer products and rates may be substituted with approval from the Engineer.

2. **Fertilizer for planting plants** shall have a guaranteed 1-2-1 ratio and a 15-30-15 analysis with a minimum of 30% of the nitrogen from either a slow release or slowly soluble source with the remainder of the nitrogen from urea or ammonium nitrate. The following types of slow release or slowly soluble nitrogen fertilizers can be used: urea formaldehyde (UF){ureaform, methylene urea, and methylene diurea/dimethylene triurea}, sulfur coated urea (SCU) and polycoated urea (PCU). Urea formaldehyde products shall have a minimum activity index of 40%. The polycoated and sulfur coated ureas shall have a minimum of 3 month release duration for the total product. All slow release or slowly soluble fertilizers shall be applied as a dry surface application as shown in Volume II of the landscape section of the VDOT Road and Bridge Standards.

   A copy of the material safety data sheet (MSDS) shall be provided to VDOT for each type of fertilizer supplied with each fertilizer delivery. Any fertilizer delivery that is not accompanied by the appropriate MSDS will be rejected. The fertilizer shall be uniform in composition, free flowing, and suitable for application with approved equipment. Fertilizer shall be delivered to the project in original bags or other convenient containers, each fully labeled, and shall conform to all applicable state and federal laws and regulations. Additional nutrients shall be added only when specified. All fertilizer shall be subject to testing by the Virginia Department of Agriculture and Consumer Services. Other fertilizer products and rates may be substituted with approval from the Engineer.

Section 244.02(e) Lime is replaced with the following:

Lime shall be agricultural grade ground limestone. Agricultural grade pulverized or pelletized lime products may be substituted at no additional cost to the Department.

The material source shall be registered with and approved by the Virginia Department of Agriculture and Consumer Services in accordance with the Virginia Agricultural Lime Law and shall conform to the requirements of Section 240. All lime shall be subject to testing by the Virginia Department of Agriculture and Consumer Services. Other lime products may be substituted with approval from the Engineer.

S245A1B-0604

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 245—GEOSYNTHETICS

April 6, 2004c

SECTION 245—GEOSYNTHETICS of the Specifications is completely replaced by the following:

245.01—Description.

These specifications cover artificial fiber textile products to be used in transportation construction work.

245.02—Detail Requirements.

Geosynthetics shall include a label that clearly shows the manufacturer or supplier name, style name, and roll number. The shipping document shall include documentation to meet the requirements of Section 245.03.

Each geosynthetic roll shall be wrapped or otherwise packaged in such a manner as to protect the geosynthetic, including the ends of the roll, from damage due to shipment, water, sunlight, and contaminants. The protective wrapping shall be maintained during periods of shipment and storage.

During storage, geosynthetics rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, temperatures in excess of 160^0 F, and other environmental condition that may damage the physical property values of the geosynthetic. Geosynthetics that are not properly protected may be subject to rejection.

245.03—Testing and Documentation.

Each geosynthetic material provided to the project shall be tested by the Contractor for the material properties specified herein within 24 months of submission. Test results reported from AASHTO's National Transportation Product Evaluation Program – Laboratory Results of Evaluations on Geotextile and Geosynthetics may be used. The Contractor shall provide certification of the material in accordance with the requirements of AASHTO M 288 Section 4, Certification, and copies of the test results. The Contractor's testing, however, will not be the sole basis for acceptance.

The Department shall sample and test the geosynthetics for acceptance to verify conformance with this specification. Sampling shall be in accordance with ASTM D 4354, using the section titled, "Procedure C - Sampling for Purchaser's Specification Conformance Testing." In the absence of the Department's testing, acceptance may be based on manufacturer's certifications as a result of testing by the manufacturer of quality assurance samples obtained using the procedure for Sampling for Manufacturer's Quality Assurance (MQA) Testing. A lot size shall be considered to be the shipment quantity of the given product, or a truckload of the given product, whichever is smaller.

All property values, with the exception of apparent opening size (AOS) and Panel Vertical Strain, in these specifications represent minimum average roll values (MARV) in the weakest principal direction (i.e., average test results of any roll in a lot sampled for conformance or quality assurance testing shall meet or exceed the minimum values provided herein). Values for AOS and Panel Vertical Strain represent maximum average roll values.

Perform tests in accordance with the methods referenced in this specification for the indicated application. The number of specimens to test per sample is specified by each test method. Geotextile product acceptance shall

be based on ASTM D 4759. Product acceptance is determined by comparing the average test results of all specimens within a given sample to the specification MARV.

(a) **Geotextile Fabric for Use in Silt Fences, Silt Barriers or Filter Barriers**

Geotextile shall function as a vertical; permeable interceptor designed to remove suspended soil from overland water flow. Fabric shall filter and retain soil particles from sediment-laden water to prevent eroding soil from being transported off the construction site by water runoff. Fabric shall contain ultraviolet inhibitors and stabilizers to provide at least 6 months of expected, usable construction life at a temperature of 0 degrees F to 125 degrees F. The tensile strength of the material after 6 months of installation shall be at least 50 percent of the initial strength.

Physical Property	Test Method	Requirements
Filtering Efficiency	VTM-51	75% (min)
Flow Rate	VTM-51	0.2 gal/sq. ft/minute (min)

In addition to these requirements the geotextile shall meet the requirements of AASHTO M 288 for Temporary Silt Fence Property Requirements, Table 6 for Grab Strength and Ultraviolet Stability.

(b) **Geotextile for Use as Riprap Bedding Material**

Geotextile shall meet the requirements of AASHTO M 288 for Separation Geotextile Properties Table 3 for Apparent Opening Size and Ultraviolet Stability and Geotextile Strength Property Requirements, Table 1, Class 2 for grab strength and puncture strength.

(c) **Geotextile Fabric for Use in Drainage Systems (Drainage Fabric)**

Drainage fabric shall be nonwoven, clog resistant, suitable for subsurface application, and stable both thermally and biologically.

The geotextile shall retain at least 75 percent of its ultimate strength when subjected to substances having a pH of a minimum of 3 and a maximum of 12 for a period of 24 hours.

Physical Property	Test Method	Requirements
Permittivity	ASTM D 4491	0.5 sec^{-1} (min)
Apparent Opening Size (AOS)	ASTM D 4751	No. 50 sieve (max)

In addition to these requirements, the geotextile shall meet the requirements of AASHTO M 288 Strength Requirements, Table 1, Class 3 for grab strength.

(d) **Geotextile for Use in Stabilization**

Geotextiles used in saturated and or unstable conditions to provide the functions of separation and reinforcement.

1. **Subgrade Stabilization Fabric**

Physical Property	Test Method	Requirements
Apparent Opening Size (AOS)	ASTM D 4751	No. 20 sieve (max)

In addition to this requirement, the geotextile shall meet the requirements of AASHTO M 288 for Strength Property Requirements, Table 1, Class 3 for Grab Strength, Tear Strength and Puncture Strength.

2. **Embankment Stabilization Fabric – up to 6 feet high**

Physical Property	Test Method	Requirements
Apparent Opening Size	ASTM D 4751	No. 20 sieve (max)
Seam Strength	ASTM D 4632	90% Specified Grab Strength

In addition to this requirement, the geotextile shall meet the requirements of AASHTO M 288 for Strength Property Requirements, Table 1, Class 1 for Grab Strength, Tear Strength and Puncture Strength.

(e) **Prefabricated Geocomposite Pavement Underdrain**

Prefabricated geocomposite pavement underdrain shall consist of a polymeric drainage core encased in a non-woven filter fabric envelope having sufficient flexibility to withstand bending and handling without damage. Prefabricated geocomposite pavement underdrain shall conform to the following:

(1) **Core:** The drainage core shall be made from an inert, polymeric material resistant to commonly encountered chemicals and substances in the pavement environment, and shall have a thickness of not less than 3/4 inch.

Physical Properties	Test Method	Requirements
Compressive Strength Panel Vertical Strain & Core Area Change	ASTM D 1621/D 2412	40 psi(min) @ 20% deflection
Panel Vertical Strain & Core Area Change @ 22.7 psi	ASTM D 6244	10% for core area & panel height (max)
Water flow rate (after 100 hours @ 10 psi normal confining pressure gradient of no more than 0.1)	ASTM D 4716	15 gal/min/ft width for 12” specimen length) (min)

The core shall retain at least 75 percent of its ultimate strength when subjected to temperatures of 0° and 125°F respectively for a period of 24 hours.

(2) **Filter Fabric**: Geotextile shall be bonded to and tightly stretched over the core. Geotextile shall not sag nor block the flow channels, have equivalent life of the core material and conform to the requirements of Section 245.03(c).

(f) **Geocomposite Wall Drains**

Geocomposite wall drains may be used as an alternative to porous backfill when permitted by the Engineer. Geocomposite wall drains will not be permitted for use with walls considered critical by the Engineer. Critical walls shall include walls over 15 feet in height and walls supporting bridge abutments or other structures on spread footings.

Prefabricated geocomposite wall drain shall consist of a polymeric drainage core encased in a non-woven filter fabric envelope having sufficient flexibility to withstand bending and handling without damage. Geocomposite wall drains shall conform to the following:

(1) **Core**: The drainage core shall be made from an inert, polymeric material resistant to commonly encountered chemicals and substances in the roadway.

Physical Property	Test Method	Requirements
Compressive Strength @ 20 % deflection	ASTM D 1621/ D 2412	40 psi (min)
Water flow rate (after 100 hours at 10 psi normal confining pressure and gradient of no more than 0. 1)	ASTM D 4716	15 gal/min/ft width (for 12" specimen length) (min)

The core shall retain at least 75 percent of its ultimate strength when subjected to temperatures of 0° and 125° F for a period of 24 hours.

(2) **Filter Fabric**: Geotextile shall be bonded to and tightly stretched over the core. Geotextile shall not sag nor block the flow channels, have equivalent life of the core material and conform to the requirements of section 245.03(c).

(g) **Geomembrane Moisture Barrier**

Geomembrane moisture barrier shall be resistant to biological attack. Geomembrane shall be constructed out of PVC, have a thickness of 30 mils and shall meet the requirements of the PVC Geomembrane Institute 1197 material specification for PVC Geomembrane or shall conform to the following requirements:

Physical Property	Test Method	Requirements
Thickness	ASTM D 5199	30 mils (min)
Tensile (1 inch strip)	ASTM D 882	130 kip/ft (min)
Tear (Die C)	ASTM D 1004	200 lbf (min)
Puncture	ASTM D 4833	620 lbf (min)

(h) **Dewatering Bag:**

A non-woven geotextile sewn together to form a bag that can be used in lieu of a de-watering basin for the purpose of filtering out suspended soil particles. The bag shall be capable of accommodating the water flow from the pump without leaking at the spout and seams.

Physical Property	Test Method	Requirements
Grab Strength @ Elongation < 50%(CRE/Dry)	ASTM D 4632	250 lbs (min)
Seam Strength	ASTM D 4632	90% Specified Grab Strength
Puncture	ASTM D 4833	150 lbs (min)
Mullen Burst	ASTM D 3786	450 psi (min)
Flow Rate	ASTM D 4491	.189 ft^3/sec/ft. (min)
Permittivity	ASTM D 4491	1.2 sec^{-1} (min)
UV Resistance	ASTM D 4355	70% at 500 hrs (min)
AOS	ASTM D 4751	100 sieve (max)

(i) **Paving Fabric**

The geotextile shall meet the requirements of AASHTO M 288 Paving Fabric Property Requirements, Section 9.

S247A0B-0105

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 247—REFLECTIVE SHEETING

October 17, 2003

SECTION 247—REFLECTIVE SHEETING of the Specifications is replaced by the following:

247.01—Description.

This specification covers reflective sheeting used on traffic control devices to provide a retroreflective surface or message. Color of the reflective sheeting shall be as specified by contract documents. Reflective sheeting shall be certified in accordance with the requirements of Section 106.06.

247.02—Detail Requirements.

Reflective sheeting shall be selected from the Department's qualified products list. Reflective sheeting products will be included on the qualified products list after the Department determines conformance to the Specifications and the manufacturer has supplied written information indicating conformance to the warranty requirements of Section 247.03. Determination of conformance will include, but will not be limited to, the evaluation of test data from AASHTO's National Transportation Product Evaluation Program (NTPEP) or other Department approved facilities except when otherwise indicated. When evaluating color test data provided by NTPEP or other Department approved facilities, color shall have been maintained within the color specification limits for the duration of the outdoor weathering test.

(a) Reflective sheeting used on signs (except those specifically indicated otherwise herein), vertical panels (Group 2 channelizing devices), traffic gates and the "STOP" side of sign paddles (hand signalizing device) shall conform to the requirements of ASTM D4956 for a Type III material. Color shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

(b) Reflective sheeting used on cones, tubular delineators, drums and permanent sand barrels shall conform to the requirements of ASTM D4956 including supplementary requirement S2 for a Type III reboundable material. Color shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations except the minimum daytime luminance factor for white shall be 25 when used on cones and tubular delineators. The following supplementary table shall apply for cones, tubular delineators and drums:

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (^{o})	Entrance Angle (^{o})	White	Orange
0.2	+50	75	25
0.5	+50	35	10

Reflective sheeting used on cones and tubular delineators is not required to be tested by NTPEP.

(c) Reflective sheeting used to delineate the trailer's back frame of portable changeable message signs, arrow boards and portable lights shall conform to the requirements of the USDOT specification for a Grade DOT-C2 truck conspicuity marking as contained in 49 CFR 571.108 of the Code of Federal Regulations. References to ASTM specifications within the USDOT specification shall be interpreted to mean the latest version of that specification regardless of the date indicated in the reference. Color

shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations

This reflective sheeting is not required to be tested by NTPEP.

(d) Reflective sheeting used on orange construction and maintenance activity signs, barrier vertical panels installed on concrete traffic barrier service, rear panel of truck mounted attenuators, temporary impact attenuators (except sand barrels) and the "SLOW" side of sign paddles shall be fluorescent prismatic lens type conforming to the following:

Color shall conform to the requirements of Tables 3 and 3A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (^{o})	Entrance Angle (^{o})	Fluorescent Orange
0.2	-4	140
0.2	+30	90
0.2	+40	24
0.5	-4	90
0.5	+30	50
0.5	+40	15
1.0	-4	10
1.0	+30	5
1.0	+40	3

Maintained coefficient of retroreflection of the sheeting after 1 year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values indicated above.

Impact resistance shall conform to the requirements of ASTM D4956.

(e) Reflective sheeting used on temporary sand barrels shall be fluorescent orange prismatic lens reboundable type conforming to the following:

Color shall conform to the requirements of Tables 3 and 3A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (^{o})	Entrance Angle (^{o})	Fluorescent Orange
0.2	-4	200
0.2	+30	120
0.2	+50	40
0.5	-4	80
0.5	+30	50
0.5	+50	30

Maintained coefficient of retroreflection of the sheeting after 1 year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values indicated above.

Reflective sheeting shall conform to the supplementary requirement S2 of ASTM D4956.

(f) Reflective sheeting used on object markers, nose of guardrails, permanent impact attenuators (except sand barrels), standard road edge delineators, special road edge delineators, barrier delineators,

guardrail delineators, interstate road edge delineators, chevron panels, bridge end panel signs (VW-13) and railroad advance warning signs (including any supplemental plaques) shall conform to the requirements of ASTM D4956 for a Type IX material with the below changes to the minimum coefficient of retroreflection R_A at the 1.0 observation angle. Color shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (°)	Entrance Angle (°)	White	Yellow
1.0	-4	28	22
1.0	+30	16	12

(g) Reflective sheeting used on Type III barricades shall be prismatic lens type conforming to the following:

Color shall conform to the requirements of Tables 1 and 1A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (°)	Entrance Angle (°)	White	Orange
0.2	-4	600	200
0.2	+30	270	120
0.2	+40	50	20
0.5	-4	220	80
0.5	+30	105	43
0.5	+40	40	15
1.0	-4	12	4
1.0	+30	10	3
1.0	+40	10	3

Maintained coefficient of retroreflection of the sheeting after 1 year on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values indicated above.

Impact resistance shall conform to the requirements of ASTM D4956.

(h) Reflective sheeting used on the below listed signs shall be fluorescent yellow-green high observation angle prismatic lens type conforming to the following:

- Bicycle Crossing sign (W11-1) including supplemental plaques
- Pedestrian Crossing sign (W11-2) including supplemental plaques
- Playground sign (W15-1) including supplemental plaques
- DEAF CHILD AREA sign including supplemental plaques
- WATCH FOR CHILDREN sign including supplemental plaques
- School Signing consisting of the following:
  - School Crossing sign (S1-1)
  - School Bus Stop Ahead sign (S3-1)
  - SCHOOL plaque (S4-3)
  - School Portion of the School Speed Limit sign (S5-1)
  - Supplemental plaques used with the above signs

Color shall conform to the requirements of Tables 3 and 3A of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (°)	Entrance Angle (°)	Fluorescent Yellow-Green
0.2	-4	325
0.2	+30	203
0.5	-4	238
0.5	+30	108
1.0	-4	63
1.0	+30	35

Maintained coefficient of retroreflection of the sheeting after 3 years on the test deck shall be at least 50 percent of the minimum coefficient of retroreflection values indicated above.

Impact resistance shall conform to the requirements of ASTM D4956.

(i) Reflective sheeting used on retroreflective rollup signs shall conform to the following:

Color shall conform to the requirements of Tables 1 and 1A for white and Tables 3 and 3A for fluorescent orange of the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations.

Minimum Coefficient of Retroreflection R_A
(Candelas per footcandle per square foot)

Observation Angle (°)	Entrance Angle (°)	White	Fluorescent Orange
0.2	-4	300	200
0.2	+30	180	125
0.2	+50	90	50
0.5	-4	200	72
0.5	+30	75	36
0.5	+50	45	20

This reflective sheeting is not required to be tested by NTPEP.

247.03—Warranty Requirements.

The reflective sheeting manufacturer shall provide the following warranties to the Department on their products:

(a) **Type III Sheeting (Permanent Use)** – 12 year warranty with 10 years being 100 percent full replacement covering all material and labor costs associated with fabrication and installation of the sign or device, and the final 2 years being 100 percent sheeting replacement cost.

(b) **Type IX and High Observation Angle Prismatic Sheeting (Permanent Use)** - 10 year warranty with 7 years being 100 percent full replacement covering all material and labor costs associated with fabrication and installation of the sign or device, and the final 3 years being 100 percent sheeting replacement cost.

(c) **Type III, Prismatic and Rollup Sign Sheeting (Work Zone Use) and Grade DOT-C2 Truck Conspicuity Marking** – 3 year full replacement warranty covering all material and labor costs associated with fabrication of the sign or device.

The warranty shall cover the loss of retroreflectivity, loss of colorfastness, cracking and any other conditions inherent to the sheeting including inks and overlay film that causes it to be ineffective in providing the direction to the motorists as intended.

Minimum values of retroreflectivity maintained during the warranty period shall be the same as those required for the maintained coefficient of retroreflection values as indicated herein, or ASTM D4956 if they do not exist herein. For reflective sheeting indicated in Section 247.02(i), the minimum values of retroreflectivity maintained during the warranty period shall be no less than 50 percent of the minimum coefficient of retroreflection values indicated herein.

Loss of colorfastness is considered to have occurred if the color of the sheeting is not within the color specification limits indicated in the USDOT specification as contained in the appendix to 23 CFR, Part 655, Subpart F of the Code of Federal Regulations during the warranty period.

S302B0B-0702

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
RESTORING EXISTING PAVEMENT

August 1, 1991ccc
Reissued July 9, 2002ccc

I. DESCRIPTION

This work shall consist of restoring existing pavement, removed for installation or repair of utilities such as, but not limited to pipe culverts, conduits, water and sanitary sewer items.

II. MATERIALS

Asphalt Concrete shall conform to the requirements of Section 211 of the Specifications.

Aggregate Subbase material shall conform to the requirements of Section 208 of the Specifications.

Asphalt Material shall conform to the requirements of Section 210 of the Specifications.

Fine Aggregate shall conform to the requirements of Section 202 of the Specifications.

Coarse Aggregate for surface treatment shall conform to the requirements of Section 203 of the Specifications.

Hydraulic Cement Concrete Class A3 shall conform to the requirements of Section 217 of the Specifications.

Steel Reinforcement shall conform to the requirements of Section 223 of the Specifications.

III. CONSTRUCTION

Pavement restoration shall be in accordance with this Provision and plan notes.

Backfill shall be in accordance with Section 302.03 (a) 2. g. of the Specifications.

Asphalt Concrete shall be placed and compacted in accordance with Section 315 of the Specifications.

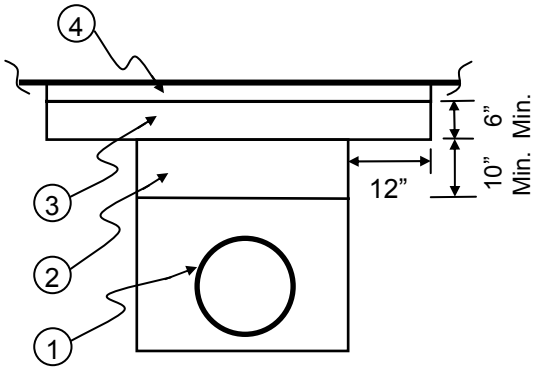
Surface Treatment shall be placed in accordance with the Asphalt Surface Treatment special provision and the attached drawing.

Concrete Pavement shall be placed in accordance with Section 509 of the Specifications and this Provision. Open trench in Hydraulic Cement Concrete Pavement should be located at existing transverse joints if at all possible. If concrete pavement is removed within two feet of an existing transverse joint, pavement removal shall be extended two feet beyond the joint. Reinforcing steel and dowels shall be installed in accordance with Road and Bridge Standard PR-2. Joint replacement shall be in accordance with Road and Bridge Standard PR-2.

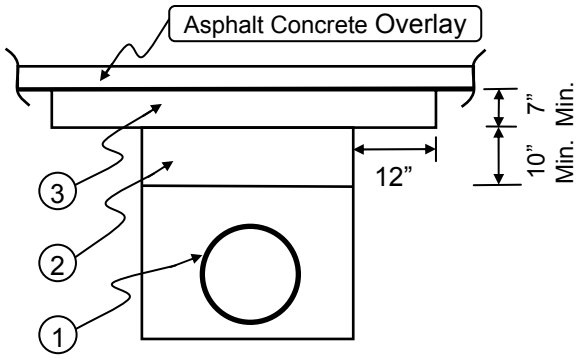
IV. METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Restoring Existing Pavement unless otherwise specified will not be measured for separate payment, the cost thereof shall be included in the price bid for the utility to which it pertains in accordance with Section 302.04, Section 520.06 or Section 705.04 of the Specifications, as appropriate. However, widths and

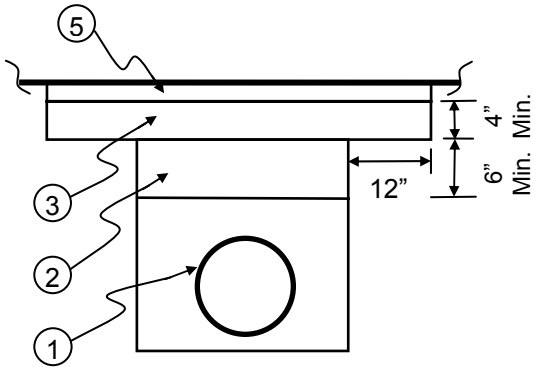
depths in excess of the attached drawing that are authorized or directed by the Engineer will be paid for in accordance with Section 109.05 of the Specifications.



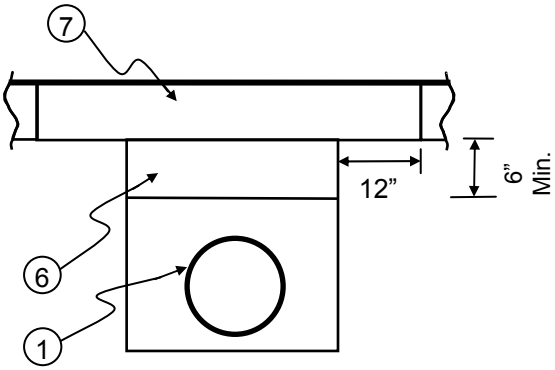
PAVEMENT STRUCTURE
Asphalt Conc. Base and Surface



PAVEMENT STRUCTURE
Scheduled for Asphalt Conc. Overlay



PAVEMENT STRUCTURE
Aggregate Base and Surface Treatment



PAVEMENT STRUCTURE
Hydraulic Cement Concrete

NOTES:

The following methods for restoring existing pavement shall be adhered to unless otherwise specified on the plans.

1. Pipe culverts, conduits and utility items shall be installed in accordance with the appliciable Road and Bridge Standards and Specifications.

2. Subbase - Aggregate material Type 1, Size 21A or 21B.

3. Asphalt Concrete Type BM-25.0

4. Surface - Asphalt Concrete Type SM-9.5D @ 165 lbs. per sq. yd.

5. Surface - Blotted Seal Coat Type C: The initial seal and final seal shall be CRS-2, CMA-2 or CMS-2h liquid asphalt material @ 0.17 gal./sq. yd. with 15 lbs. of No. 8P stone/sq. yd. each. The blot seal shall be CRS-2, CMS-2 or CMS-2h liquid asphalt material @ 0.15 gal./sq. yd. with 10 lbs. of fine aggregate grade B sand per sq. yd.

6. Subbase - Aggregate material Type 1 Size 21B

7. Surface - Hydraulic Cement Concrete, high early strength, matching existing structure for depth and surface texture.

S303D0B-0702

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
NO PLAN AND MINIMUM PLAN CONCEPT

April 14, 1998
Reissued July 9, 2002

I. DESCRIPTION

This work shall consist of the construction or reconstruction of the roadway in accordance with this provision and in reasonably close conformity with the lines, grades and typical sections shown or established by the Engineer.

This work shall include clearing and grubbing; excavation within the area of the typical section(s), construction of embankments and shoulders, construction of connections with intersecting roads, streets and entrances, both public and private, and the construction of all ditches and channels within the area of the right-of-way or easements. Unless otherwise specified, this work shall include the removal and disposal of existing road surface material, abandoned pipe culverts and minor structures. The existing road surface material shall be salvaged and used for maintenance of traffic, except when the Engineer determines that this condition is impractical.

II. MATERIALS AND TESTING

Testing on this project will be in accordance with the policy for testing on no plan and minimum plan projects in Sections 207 and 208 of the Specifications and the Material Division's Manual of Instructions.

III. CONSTRUCTION METHODS

The Contractor shall perform all construction or reconstruction activities in accordance with the applicable requirements of the Specifications, except as otherwise specified herein or on the plans.

The roadway centerline shall be in accordance with the centerline shown on the plans or established by the Engineer. The grade shall generally follow that shown on the plans. In the absence of a grade line on the plans, the proposed grade shall generally follow the existing grade as directed by the Engineer. The approximate depth of centerline cuts and fills shall be obtained from the plans, except that at certain locations and at the discretion of the Engineer, a minimum number of centerline grade stakes may be furnished by the Department whereby the approximate depth of centerline cuts and fills may be obtained therefrom. Slope tolerances specified in the Specifications are waived; however, all disturbed slopes shall be uniformly grooved or rough graded as directed by the Engineer.

The roadbed shall be shaped and worked until it is smooth and free from large clods or other material unfit for use in the roadbed. Sharp breaks in the roadbed shall be eliminated and the final grade shall be compacted. The maximum gradient on all connections with intersecting roads, streets and entrances shall not exceed 10 percent, unless otherwise noted on plans or directed by the Engineer. Ditchlines shall be graded to facilitate drainage and to prevent the impoundment of water.

Excess material from slides, ditches and channels, slopes or drainage easements, and unsuitable material cut from below grade, which cannot be used to flatten fill slopes within the right-of-way or easements, shall be disposed of by the Contractor in accordance with Section 106.04 of the Specifications.

The construction or clean out of ditches or channels extending beyond the roadway right-of-way, the removal and disposal of slide material and the removal and disposal of unsuitable material required to be removed from below subgrade will be classified as extra excavation.

IV. METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Grading will be paid for at the contract lump sum price, which price shall be full compensation for mobilization when not specified as a separate bid item; for the cost of clearing and grubbing; for all regular excavation; for construction of embankments, grading of unpaved shoulders and ditches and channels; for allaying of dust when not specified as a separate bid item; for removal and disposal of excess or unsuitable material above grade; and for removal and disposal of existing minor structures and roadway surface materials.

When specified as a bid item, extra excavation will be measured in cubic yards in accordance with Section 109.01 and will be paid for at the contract unit price per cubic yard; which price shall be full compensation for performing the required excavation and disposing of material in accordance with Section 106.04 of the Specifications or as directed by the Engineer. When not specified as a contract bid item, extra excavation will be paid for at the unit price of $10.00 per cubic yard.

Items of work not specified herein will be measured and paid for in accordance with the applicable Sections of the Specifications.

Payment will be made under:

Pay Item	**Pay Unit**
Grading	Lump Sum
Extra Excavation	Cubic Yard

S315A3B-1205

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 315—ASPHALT CONCRETE PAVEMENT
(SUPERPAVE)

August 31, 2005

SECTION 315—ASPHALT CONCRETE PAVEMENT of the Specifications is amended as follows:

Section 315.02(c) is replaced with the following:

Curb backup material shall be asphalt concrete conforming to any surface or intermediate mixture listed in Table II-13 and II-14.

Section 315.03(b) Asphalt Pavers is amended by replacing the first sentence of the first paragraph with the following:

Asphalt Pavers: The asphalt paver shall be designed and recommended by the manufacturer for the type of asphalt to be placed and shall be operated in accordance with the manufacturer's recommendations.

Section 315.04(b) is replaced by the following:

(b) When the base temperature is between 40 degrees F and 80 degrees F, the Nomograph, Table III-2, shall be used to determine the minimum laydown temperature of the asphalt concrete mixes. At no time should the minimum base and laydown temperatures be less than the following:

Mix Designation	Minimum Base Temperature	Minimum Laydown Temperature
A	40˚F	250˚F
D	50˚F	270˚F
E	50˚F	290˚F
M	50˚F	290˚F
S	50˚F	290˚F

Section 315.05(c) is amended to replace the first sentence of the fifth paragraph with the following:

The Contractor shall have a certified Asphalt Field Technician present during paving operations.

Section 315.05(e)1. is amended to replace the first, second, third, fourth and fifth paragraphs with the following:

1. The Contractor shall perform roller pattern and control strip density testing on surface, intermediate, and base courses in accordance with the requirements of VTM-76. The contractor shall have a certified Asphalt Field Technician perform all density testing.

   Density shall be determined by the backscatter method of testing using a thin-lift nuclear gage with printer, conforming to the requirements of VTM-81. All density test locations for the control strip and test sections shall be marked and labeled in accordance with the requirements of VTM-76. The Contractor shall furnish and operate the nuclear gage, which shall have been calibrated within the previous 12 months by an approved calibration service. In addition, the Contractor shall

maintain documentation of such calibration service for a 12-month period. The required density of the compacted course shall be not less than 98.0 percent and not more than 102.0 percent of the Target Control Strip Density.

Nuclear density roller pattern and control strip density testing shall be performed on asphalt concrete overlays placed directly on surface treatment roadways and when overlays are placed at an application rate less than 125 pounds per square yard (based on 110 pounds per square yard per inch) on any surface. In these situations, sawed plugs or core samples will not be required and the minimum control strip densities as shown in Table III-3 will be waived. The required density of the compacted course shall be not less than 98.0 percent and not more than 102.0 percent of the target control strip.

The project will be divided into "control strips" and "test sections" by the Engineer for the purpose of defining areas represented by each series of tests.

Section 315.05(e)1.a. is replaced with the following:

Control Strip: Construction of control strips shall be accomplished in accordance with the requirements of these specifications and VTM-76.

The term *control strip density* is defined as the average of 10 nuclear determinations selected at stratified random locations within the control strip.

One control strip shall be constructed at the beginning of work on each roadway and shoulder course and on each lift of each course. An additional control strip shall be constructed when a change is made in the type or source of materials, compaction equipment, whenever a significant change occurs in the composition of the material being placed from the same source, or when there is a failing control strip**.** During the evaluation of the initial control strip, paving operations may continue. However, paving and production shall be discontinued during construction and evaluation of additional control strips. In the event that two consecutive control strips fail, subsequent paving operations shall cease until corrective action(s) has been made with the approval of the Engineer. If it is determined with the Engineer's approval that the density cannot be obtained because of the condition of the existing pavement structure, the target control strip density shall be determined from the roller pattern that achieves the optimum density and shall be used on the remainder of the roadway that exhibits similar pavement conditions.

Either the Department or Contractor may initiate an additional control strip at any time.

The length of the control strip shall be approximately 300 feet, regardless of the width of the course being placed. On the first day of construction or beginning of a new course, the control strip shall be started between 500 and 1000 feet from the beginning of the paving operation. The control strip shall be constructed using the same paving, rolling equipment, procedures, and thickness as shall be used on the remainder of the course being placed.

One nuclear reading shall be taken at each of 10 stratified random locations. No determination shall be made within 12 inches of the edge of any application width for surface and intermediate mixes, nor within 18 inches of the edge of any application width for base mixes. The average of these 10 determinations shall be the Control Strip Density recorded to the nearest 0.1 pound per cubic foot. The minimum Control Strip Density shall be determined in accordance with the requirements of VTM-76.

The control strip shall be considered a lot. If the control strip density conforms to the requirements of Table III-3, the control strip will be acceptable and the control strip density shall become the target control strip density. If the density does not conform to the requirements of Table III-3, the tonnage placed in the control strip and any subsequent paving prior to construction of another control strip will be paid for in accordance with Table III-4 on the basis of the percentage of the Table III-3 value

achieved. The Contractor shall take corrective action(s) to meet the density requirement specified in Table III-3.

Table III-3 Density Requirements and its footnote are replaced with the following:

TABLE III-3
Density Requirements

Mixture Type	Min. Control Strip Density (%)
SM-9.5A, 12.5A	92.5
SM-9.5D, 12.5D	92.2
SM-9.5E, 12.5E	92.2
IM-19.0A	92.2
IM-19.0D	92.0
BM-25.0A, BM-25.0D	91.5

Note: The control strip density requirement is the percentage of theoretical maximum density of the job-mix formula by Superpave Mix Design or as established by the Engineer based on two or more production maximum theoretical density tests.

Section 315.05(e)1.b. is amended to replace the first paragraph with the following:

Test section (lot): For the purposes of acceptance, each day's production shall be divided into lots (test section). The standard size of a lot shall consist of 5,000 linear feet of any pass made by the paving train regardless of the width of the pass of the thickness of the course. Pavers traveling in echelon will be considered as two passes. Each lot shall be divided into five sublots of equal length. When a partial lot occurs at the end of a day's production or upon completion of the project, the lot size shall be redefined as follows: If the partial lot contains one or two sublots, the sublots will be added to the previous lot. If the partial lot contains three or four sublots, the partial lot will be redefined to be an entire lot. Each lot shall be tested for density by taking a nuclear density reading from two random locations selected by the Engineer within each sublot. Readings shall not be taken within 12 inches of the edge of any application width for surface and intermediate mixes, nor within 18 inches of the edge of any application width for base mixes. The average of the sublot nuclear density readings will be compared to the target nuclear control strip density to determine the acceptability of the lot. Once the average nuclear density of the lot has been determined, the Contractor will not be permitted to provide additional compaction to raise the average. If two consecutive sublots produce nuclear density results less than 98 or greater than 102 percent of the target nuclear control strip density, the Contractor shall immediately notify the Engineer and institute corrective action. By the end of the day's operations, the Contractor shall furnish the test data developed during the day's paving to the Engineer.

Section 315.05(e)1.b. is amended to add the following:

The Department at any time on any project may perform Lot Density Verification testing. Lot Density Verification can be performed by either using a nuclear gage or plugs. The Contractor shall be responsible for taking all plugs for testing. Testing of the plugs will be done by or in the presence of the Department.

Surface, Intermediate, and Base mixes:

When a nuclear gage is used, the Department will take 10 stratified random readings per lot. If, based on the average of the 10 readings, the density does not meet the requirement for 100 percent pay or the same pay percentage determined by the Contractor's testing for that lot, the Department will read the 10 Contractor sites then average all 20 sites together. If the density still does not conform to the requirements for 100 percent pay, payment for that lot will be in accordance with Table III-4 on the

basis of the Department's average of the 20 test results. If the Contractor questions the payment for the lot, the Contractor can request the referee procedure.

The referee procedure shall consist of the Department taking 5 plugs from the 5 sites closest to the average of the Department readings of the Contractor and Department sites. The density of the plugs will be determined. If the average density of the plugs does not conform to the requirements for 100 percent pay for the lot in question, payment for that lot will be in accordance with Table III-4 on the basis of the percentage of the Table III-3 value achieved.

When plugs are used for Lot Density Verification, 5 plugs shall be taken per lot. If the density of the plugs does not conform to the requirements for the lot in question, payment for that lot will be in accordance with Table III-4 on the basis of the percentage of the Table III-3 value achieved.

Table III-4 Payment Schedule for Lot Densities is amended to remove the word "**Nuclear**" from the heading of the left column of the table.

Section 315.05(e)2. is deleted

Section 315.05(e)3. is amended to replace the first sentence of the first paragraph with the following:

Surface, Intermediate and Base Courses not having sufficient quantity of material to run a nuclear density roller pattern and control strip shall be compacted to a minimum density of 91.5 percent of the theoretical maximum density as determined by VTM-22.

Section 315.05(e)3. is amended to replace the first sentence of the second paragraph with the following:

Any section having mixture (i.e. SM-9.0) being placed at an application rate less than 125 pounds per square yard (based on 110 pounds per square yard per inch) and not having sufficient quantity to run a nuclear density roller pattern and control strip shall be compacted by rolling a minimum of 3 passes with a minimum 8-ton roller.

S501B0B-0503

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 501—UNDERDRAINS

September 13, 2002c

SECTION 501—UNDERDRAINS of the Specifications is completely replaced with the following:

501.01—Description.

This work shall consist of constructing underdrains, using pipe, aggregate, and geosynthetics, in accordance with these specifications and in reasonably close conformity to the lines and grades shown on the plans or as designated by the Engineer.

501.02—Materials.

(a) **Pipe** shall conform to the requirements of Section 232.

(b) **Aggregate** shall conform to the requirements of Section 202 or 203.

(c) **Geosynthetics, to include geotextile fabric and prefabricated geocomposite pavement edgedrains**, shall conform to the requirements of Section 245.

501.03—Procedures.

(a) **Excavation:** The trench shall be excavated so that the walls and bottom are free of loose and jagged material. Large depressions shall be filled with sandy material, and sharp contours and rises shall be leveled. Excavated material shall be handled in a way that prevents contamination with the aggregate used to backfill the trench for the underdrain.

(b) **Placing Geosynthetics:** When geotextile fabric or prefabricated geocomposite pavement edgedrain, PGPE, is required, it shall be placed as shown on the plans. Torn or punctured fabric shall be replaced at the Contractor's expense. Splices, when required for PGPE shall be made using splice kits furnished by the manufacturer and in accordance with the manufacturer's written instructions. Spliced joints shall not damage the panel, shall not impede the open flow area of the panel, and shall maintain the vertical and horizontal alignment of the drain within 5 percent. Splices shall be made in such a manner as to prevent infiltration of the backfill or any fine material into the water flow channel.

(c) **Installing Pipe:** Perforated pipe shall be placed with the perforations facing downward on a bed of aggregate material. Pipe sections shall be joined with appropriate couplings. Semi-round underdrain pipe shall be placed with the rounded section down.

Wherever the depth of the trench is modified to a lesser depth than shown on the standard drawings, concrete or corrugated pipe shall be used.

Pipe shall be placed with the bell end upgrade. Open joints shall be wrapped with the same geotextile used for lining the excavation.

Upgrade ends of pipe, except for combination underdrains, shall be closed with suitable plugs. Where an underdrain connects with a manhole or catch basin, a suitable connection shall be made through the wall of the manhole or catch basin.

After the Engineer has approved the pipe installation, aggregate backfill material shall be placed and compacted. Pipe and covering at open joints shall not be displaced during subsequent operations.

Outlet pipes shall be installed at the low points of a sag.

End walls for outlet pipes shall be placed on a prepared surface that has been compacted to meet the requirements of Section 303.04. If settlement of the end wall occurs, the Contractor shall make necessary repairs at his expense.

(d) **Combination Underdrain Outlets:** Pipe shall be placed in the trench with sections securely joined. After the Engineer has approved pipe installation, the trench shall be backfilled with aggregate material in layers not more than 6 inches in depth and thoroughly compacted.

(e) **Inspection Ports:** Inspection ports shall be installed on the PGPE at a rate of 2 per mile of installed PGPE or a minimum of 4 per project. Inspection ports shall meet and be installed in accordance with the manufacturer's specification. The Department will use these ports in conjunction with a borscope camera as part of the basis for acceptance the PGPE. The Department will perform inspection after PGPE installation, but prior to paving the shoulder. Bends, water flow restrictions, J-shaped panels, tears in the geotextile, debris in pipes and sags are unacceptable and shall be removed and replaced at no cost to the Department.

501.04—Measurement and Payment.

Underdrains and combination underdrains will be measured in linear feet, complete-in-place, and will paid for at the contract unit price per linear foot. The contract unit price for underdrains installed at depths greater than that shown in the standard drawings will be increased 20 percent for each 1-foot increment of increased depth. No adjustment in the contract unit price will be made for an increment of depth of less than 6 inches. When drains are to be placed under pavement that is not constructed under the Contract, the contract unit price shall include removing and replacing pavement.

Geotextile drainage fabric, when a pay item, will be measured and paid for in accordance with the requirements of Section 504.04.

Outlet pipe for underdrains will be measured in linear feet, complete-in-place, and will be paid for at the contract unit price per linear foot.

These prices shall include geotextile drainage fabric when not a pay item, excavating, aggregate, backfilling, compaction, splicing, inspection ports, if any, disposing of surplus and unsuitable materials, and installing outlet markers.

Payment will be made under:

Pay Item	**Pay Unit**
Underdrain (Standard)	Linear foot
Combination underdrain (Standard)	Linear foot
Outlet pipe	Linear foot

S704A0B-0702

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
TYPE B, CLASS VI PAVEMENT LINE MARKING

February 6, 1996
Reissued July 9, 2002

I. DESCRIPTION

This work shall consist of furnishing and installing a self adhesive white or yellow preformed pavement line marking at locations shown on the plans and as directed by the Engineer.

II. MATERIALS

Preformed pavement line marking shall be a retro-reflective pliant polymer material consisting of a mixture of polymeric materials, pigments and glass beads distributed throughout its cross-sectional area with a reflective layer of beads embedded into the surface. The markings shall be suitable for use one year after the date of receipt when stored in accordance with the manufacturer's recommendations.

The marking shall have the following reflectance values when tested in accordance with the requirements of ASTM-D4061. The photometric quantity to be measured shall be specific luminance (SL), expressed as millicandelas per square foot per foot-candle. The metric equivalent shall be expressed as millicandelas per square meter per lux. The test distance shall be 50 ft. (15m) and the sample size shall be a 2.0 ft. x 0.25 ft. rectangle (0.61m x .076m).

INITIAL REFLECTANCE VALUES

	White		**Yellow**	
Entrance Angle	86.0°	86.5°	86.0°	86.5°
Observation Angle	0.2°	1.0°	0.2°	1.0°
Specific Luminance	1100	700	800	500

The glass beads on the surface of the material shall have a refractive index of no less than 1.70 when tested using the liquid oil immersion method. The beads shall be tested for acid resistance, in which under 20X magnification, no more than 15% of the beads shall show a distinct opaque white (corroded) layer on their entire surface when tested in accordance with the requirements of VTM 61. The glass beads mixed into the pliant polymer shall have a refractive index of no less than 1.5 when tested by the liquid oil immersion method.

Bead adhesion shall be such that beads are not easily removed when the film surface is scratched firmly with a thumbnail.

The material without adhesive shall have a minimum caliper of 0.065" (1.651 mm) at the thickest portion of the cross-section, and a minimum caliper of 0.020" (0.508 mm) at the thinnest portion of the cross-section.

The surface of the retro-reflective pliant polymer shall provide an initial skid resistance value of no less than 45 BPN when tested according to the requirements of ASTM E-303-83.

The preformed marking materials shall be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. The material shall be capable of being adhered

to asphalt or hydraulic cement concrete by a precoated pressure sensitive adhesive. The marking shall be capable of being inlaid during a paving operation on new, dense, or open graded asphalt concrete and shall be ready for traffic immediately after application.

The marking shall be a neat, durable marking that will not flow or distort due to temperature if the pavement surface remains stable. The pliant polymer shall provide a cushioned, resilient substrate that reduces bead crushing and loss. Markings shall be weather resistant and shall show no significant tearing, roll back, lifting, shrinkage, or other signs of poor adhesion, nor appreciable fading, which will impair the intended usage of the marking throughout its intended life.

When the pay item specifies Type B, Class VI contrast pavement line marking, the preformed tape shall be an additional 3" (75 mm) minimum wider than the width specified in the pay item. This additional tape width shall be black non-reflective with 1 1/2" (38 mm) minimum on both sides of the white.

III. INSTALLATION

Surface preparation, use of solvents and primers, and equipment used in the application of the markings shall be in accordance with the manufacturer's recommendations. Marking configurations shall be in accordance with the "Manual on Uniform Traffic Control Devices". Unless otherwise indicated, markings installed on new asphalt concrete roadway surfaces shall be inlaid into the surface with the last pass of the asphalt roller (if allowed by tape manufacturer) or directly after the asphalt roller utilizing a separate roller for the tape whereby the marking becomes embedded within the pavement. Temperature requirements of the asphalt and the type of roller allowed shall be in accordance with the tape manufacturer's recommendations. The Contractor shall ensure that inlaid markings are not degraded by the pavement operation.

Markings shall not be installed directly over longitudinal pavement joints.

IV. TESTING

Visual night inspections will be made by the Engineer with both Contractor and a manufacturer's representative to identify areas of the pavement markings appearing to reflect below the specified reflectance values. Such areas shall be tested by the Contractor to measure the reflectance values. Pavement markings to be tested shall be clean and dry. Testing shall be performed with the use of an "ECOLUX" brand reflectometer at a minimum temperature of 40°F (4°C) in accordance with the following:

TESTING REFLECTANCE VALUES

	White	**Yellow**
Entrance Angle	86.5°	86.5°
Observation Angle	1.0°	1.0°
Specific Luminance Average Value, Minimum	150	150

Test areas will be equal to three miles or less and shall have a minimum of three check points for each type marking therein. Measurements for skip lines shall be 18, distributed over 6 lines at each check point. Measurements for center and edge lines shall be 18, distributed over 300 feet or less of continuous marking. Markings more than 6 inches in width shall have 1/3 of its measurements on the right edge, 1/3 on the axis and 1/3 on the left edge.

Measured reflectance values, at each check point, will be averaged by type marking to determine conformance to the test reflective values.

All costs associated with testing the markings for reflectance values including but not limited to the cost of maintenance of traffic and the reflectometer shall be borne by the Contractor.

V. MEASUREMENT AND PAYMENT

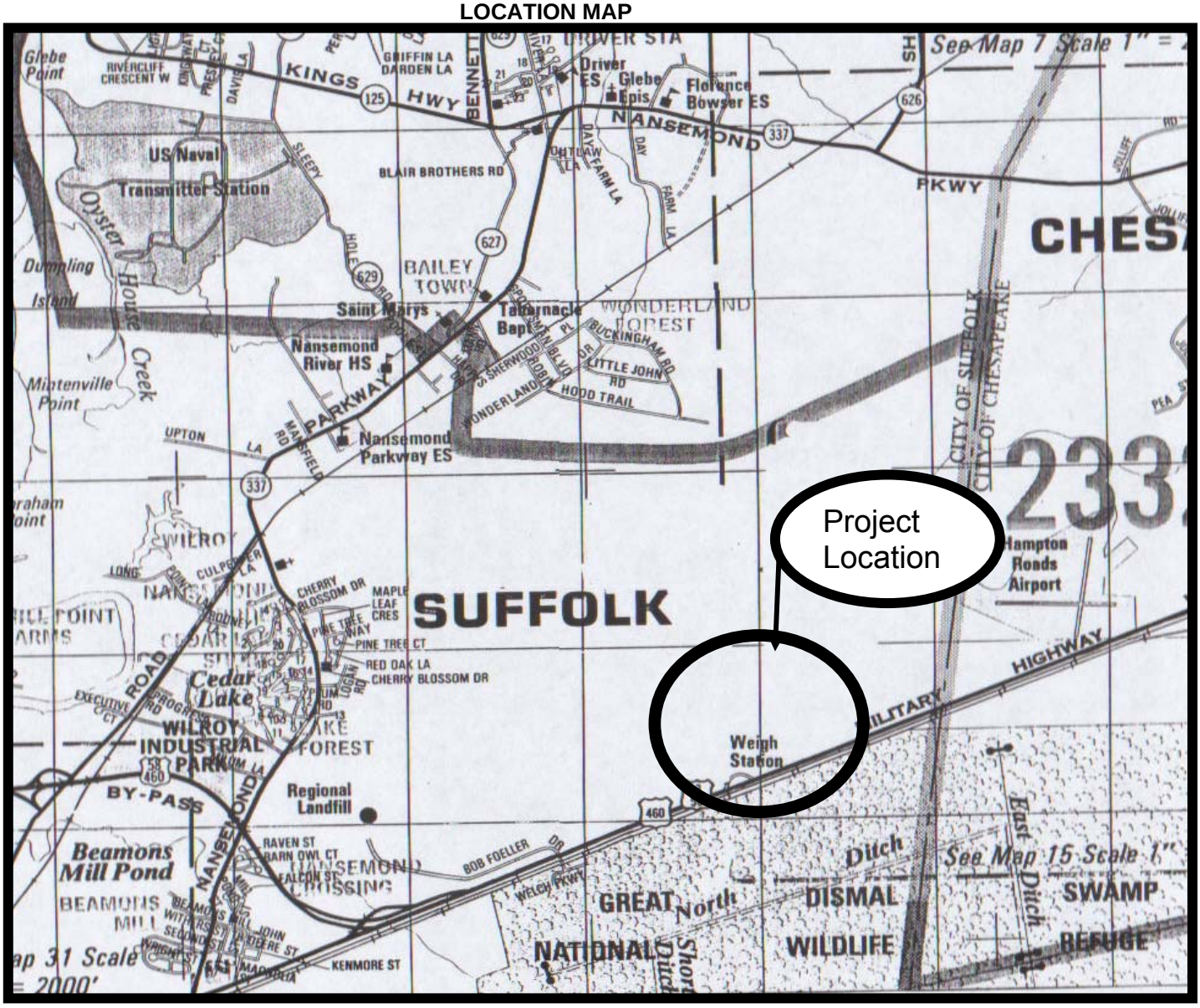
Type B, Class VI pavement line marking will be measured in linear feet for the width specified and will be paid for at the contract unit price per linear foot, which price shall be full compensation for furnishing and installing pavement line markings, surface preparation, and testing.

Payment will be made under:

Pay Item	Pay Unit
Type B, Class VI pavement line marking (Width)	Linear foot
Type B, Class VI contrast pavement line marking (Width)	Linear foot

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

LOCATION MAP



ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

ROADSIDE DEVELOPMENT

CORE MIX

Mix	Lbs./Acres	Description
1	▲	*100% certified fine fescue
2	▲ 100	100% certified tall fescue
3	▲	50% certified tall fescue *50% certified fine fescue
4	▲	50% orchardgrass 50% certified Ky. bluegrass
5	▲ 50	100% bermudagrass
Temporary		Annual Ryegrass
3/1-5/16 & 5/16-8/16		50% certified tall fescue 50% barley, or winter rye or winter wheat
5/16-8/16		50% foxtail millet 50% certified tall fescue

▲ ALL RATES TO BE SPECIFIED BY THE ENVIRONMENTAL DIVISION AS SHOWN ON THE EQ-100

* FINE FESCUES INCLUDE CHEWINGS, CREEPING RED, HARD, & SHEEP

ADDITIVES

Type	Lbs./Acres	Description
A	▲	100% lovegrass
B	▲	100% barley, or winter rye or winter wheat
C	▲ 20	100% foxtail millet
D	▲ 20	100% annual ryegrass
E	▲	100% crownvetch (legume)
F	▲	100% sericea lespedeza (legume)
G	▲	100% birdsfoot trefoil (legume)
H	▲	100% barley
I	▲	
J	▲	
K	▲	

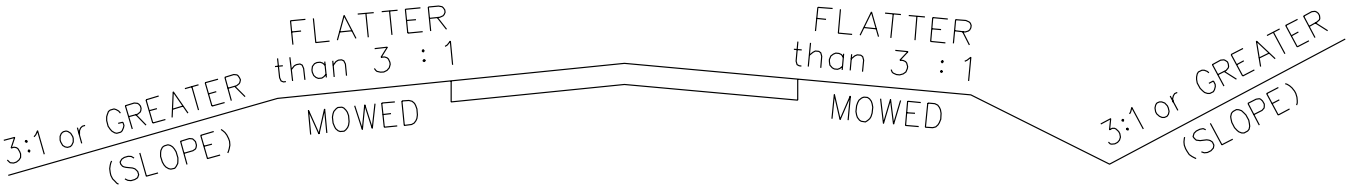
SEEDING SCHEDULE

	Slopes seed mix with additive	Mowed seed mix with additive	Slopes seed mix with additive	Mowed seed mix with additive	Slopes seed mix with additive	Mowed seed mix with additive
	SPRING Month & Date 4/1 – 6/1		SUMMER Month & Date 6/1 – 9/15		FALL & WINTER Month & Date 9/15 – 4/1	
Project Numbers 2006-74-FSPA						
*Specify kind of fine fescue	2,5	2, 5D	2,5	2, 5C	2,5	2, 5D

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

ROADSIDE DEVELOPMENT

SECTION OF SEED LOCATION



NOTES

Approximately 0.3 acres will be disturbed on these projects TOTAL and will require the establishment of grasses and /or legumes.

☆ NOTES FOR FIELD USE ONLY

Over seeding rates shall be 100% of the seed mixture supplied without fertilizer.

The Engineer will require the Contractor to perform supplemental seeding when less than 75 percent uniform stand of the permanent grass specified in the mixture obtained. (Annual species such as, Rye and Millet are temporary varieties and require supplemental seeding.)

NOTES APPLY TO SCHEDULE

Legume seed mixes (Birdsfoot Trefoil, Crown Vetch and Sericea Lespedeza) and weeping Lovegrass shall not be used on shoulders and other locations flatter that 3:1 slope.

Legume seed shall be inoculated with the appropriate strain and rate of bacteria. For hydroseeding, use five times the dry seeding rate of inoculant.

A temporary mix of erosion control mulch, as directed by the Engineer, is to be used only on areas that are to be regraded or later disturbed, if left dormant for more than 15 days.

Type I Erosion Control Mulch, as directed by the engineer, is to used on areas that are to be left dormant for more than 15 days between December 1 and February 28.

Spring and Summer Fall and Winter defined for the purpose of determining whether hulled or unhulled Bermuda and Sericea Lespedeza seed is required:

SPRING & SUMMER 4/1 - 9/15 - USE HULLED SEED
FALL & WINTER 9/15 - 4/1 - USE UNHULLED SEED

Type I mulch (Straw) to be used on newly seeded areas adjacent to all waterways, wetlands, swamps, or any area in which drainage flows toward areas under the jurisdiction of the environmental regulatory agencies.

Type I mulch shall be applied at 2 Tons per acre to provide 90% coverage.

Type I mulch shall be tacked with Fiber mulch at the rate of 750 lbs. per acre and/or mulch tackifer.

Type II mulch (Fiber mulch) may be substituted for Type I mulch at the recommendation of the District Environmental Manager.

Type II mulch shall be applied at a rate of 1500 lbs. (net dry weight) per acre to provide a minimum of 90 percent coverage, and shall be applied in a separate application.

Erosion Control Mulch, as listed on the VDOT Approved Products List, shall be applied in accordance with the manufacture's recommendations.

Erosion Control Mulch shall provide 100% coverage of all denuded areas.

Roadside Development Summary							
Project Numbers 2006-74-FSPA	Top soil 2" Class A / B	Regular Seed	Over Seeding	Legume Seed	Lime	Fert. 15-30-15	Type IA Erosion Control Mulch
	ACRES	LBS	LBS	LBS	TONS	TONS	SQ. YDS.
Req. Per. Acre		100 Tall Fescue 50lbs Bermuda			2TONS / ACRE	400LBS./ ACRE	See above guidance for Mulch

All topsoil is to be free of hard lumps, clods, rocks and foreign debris and is to be hand raked to tie into existing lawns.

All seed must be in conformance with VDOT seed specifications for Grasses & Legumes and be provided at the project site in bags not opened and labeled for use on VDOT projects with a green tag certifying inspection by the Virginia Crop Improvement Association.

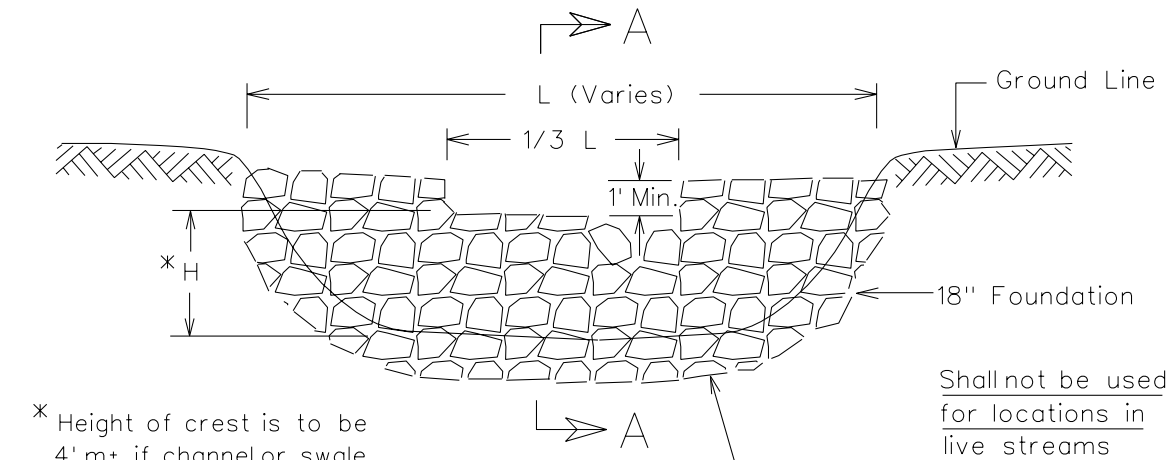
MIX REQUIREMENT THIS PROJECT

SEED MIXTURE RECOMMENDATIONS MAY AT TIMES DEVIATE FROM THE SEED MIXTURE GUIDELINES ON THE ROADSIDE DEVELOPMENT SHEET. RECOMMENDATIONS FOR THE APPLICATION OF SEED MIXTURES (CORE MIX AND ADDITIVES). FERTILIZER, LIME, ETC. ARE TO BE OBTAINED FROM THE DISTRICT ENVIRONMENTAL MANAGER ON FORM RD-100.

TEMPORARY EROSION & SILTATION CONTROL

Rev. 6-97

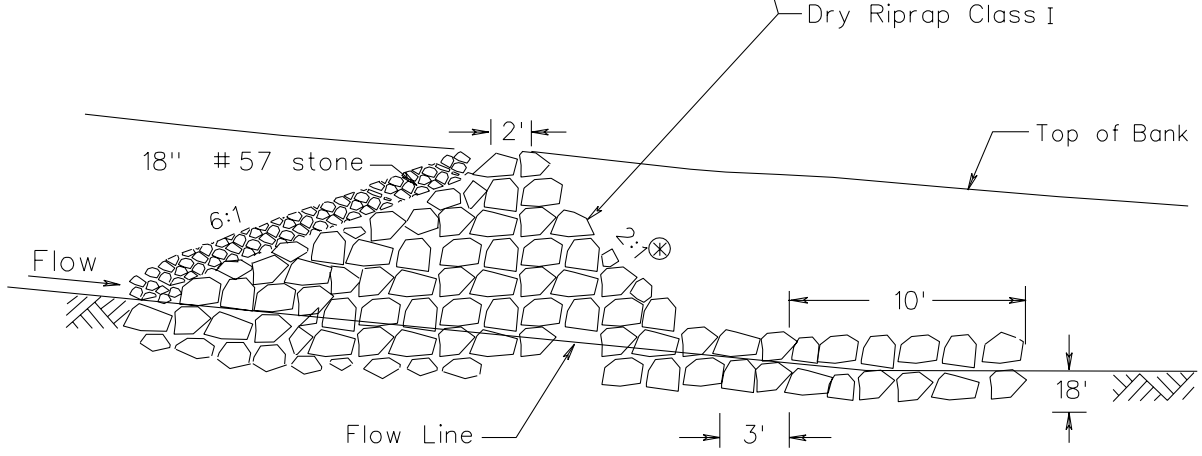
CHECK DAMS
TYPICAL DETAIL FOR ROCK CHECK DAM TYPE I



Shall not be used for locations in live streams

* Height of crest is to be 4' m± if channel or swale is deep enough or as designated by designer.

FRONT ELEVATION



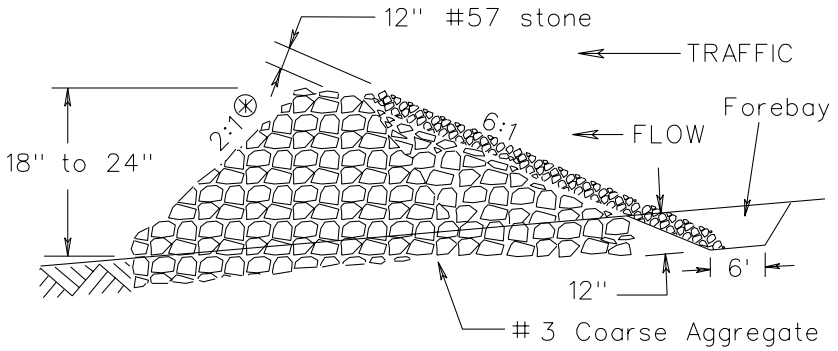
⊗ If Rock Check Dams are subject to two way traffic and arelocated within the clear zone, they are to have 6:1 slopes on bothsides.

SECTION A-A

TEMPORARY EROSION & SILTATION CONTROL

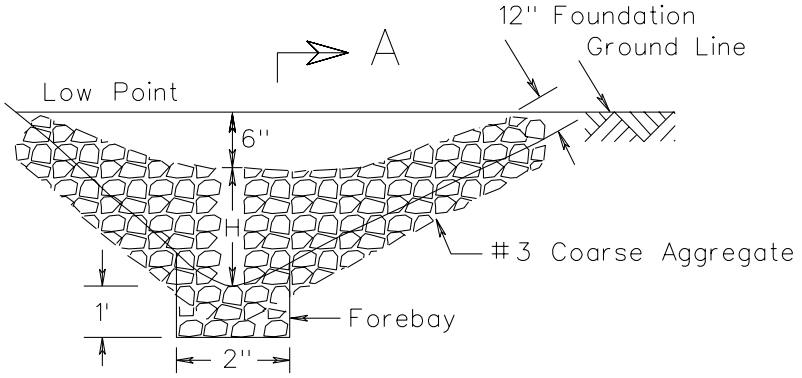
Rev. 6-97

TYPICAL DETAIL FOR ROCK CHECK DAM TYPE II



SECTION A-A

Shall not be used in cut ditch within clear zone when H > 12"



FRONT ELEVATION

NOTES:

Rock Check Dams that are designated on the plans as a Stormwater Management (SWM) item are to be left in place as a permanent installation.

H = Height of dam 12" or as designated by designer.

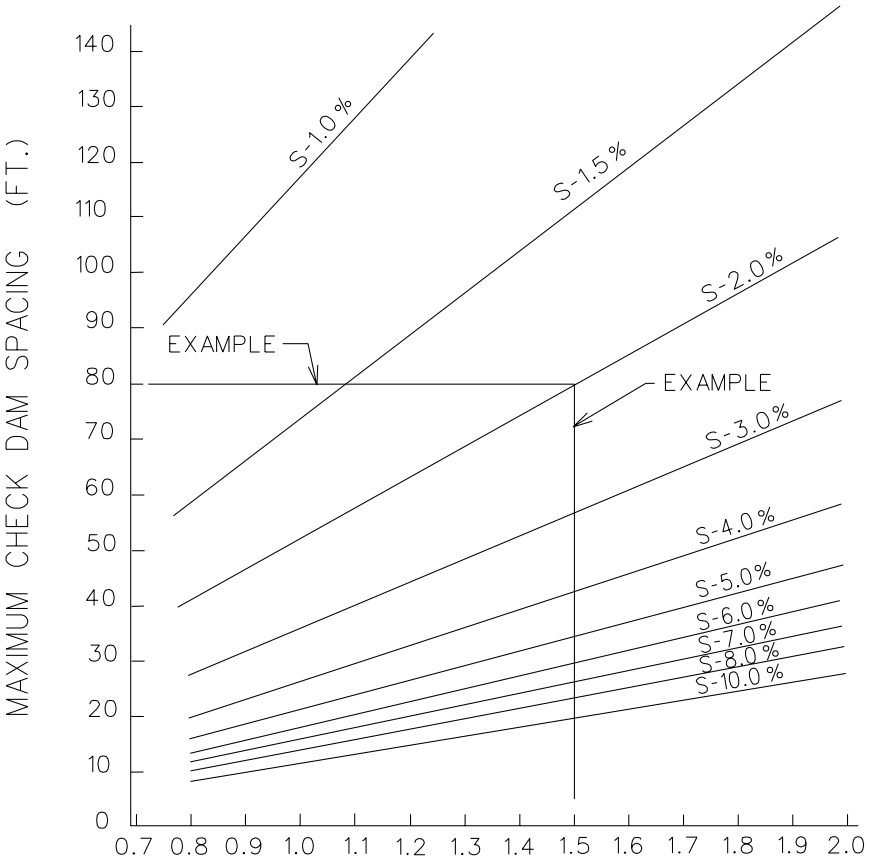
Where drainage areas exceed 1 acre or ditch grade exceeds 3%, a temporary sediment trap shall be installed with minimum dimensions of 12" deep and 6" in length.

⊗ If Rock Check Dams are subject to two way traffic and are located within the clear zone, they are to have 6:1 slopes on both sides.

TEMPORARY EROSION & SILTATION CONTROL

Rev. 6-97

ROCK CHECK DAM SPACING



CHECK DAM HEIGHT (FT.)
MEASURED AT BOTTOM OF SPILLWAY

DESIGN OF STONE CHECK DAM SPACING
(n = 0.030, V= 2.0 fps)

EXAMPLE : HEIGHT OF STRUCTURE 1.5'
GRADE 2%
EXTEND PERPENDICULAR FROM 1.5' HEIGHT TO INTERSECT 2% GRADE
EXTEND 90° TO THE LEFT TO DETERMINE SPACING (78'+)

TEMPORARY EROSION & SILTATION CONTROL

Rev. 6-97

GENERAL NOTES

PERIMETER EROSION AND SILTATION CONTROLS ARE TO BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

ALL CHANNEL CHANGES ARE TO BE CONSTRUCTED DURING THE EARLIEST STAGE OF CONSTRUCTION AND ARE TO BE CONSTRUCTED "IN THE DRY" WHEREVER POSSIBLE. STABILIZATION OR VEGETATION IS TO BE ESTABLISHED BEFORE FLOW IS REDIRECTED THROUGH THE CONSTRUCTED AREA AS DIRECTED BY THE ENGINEER.

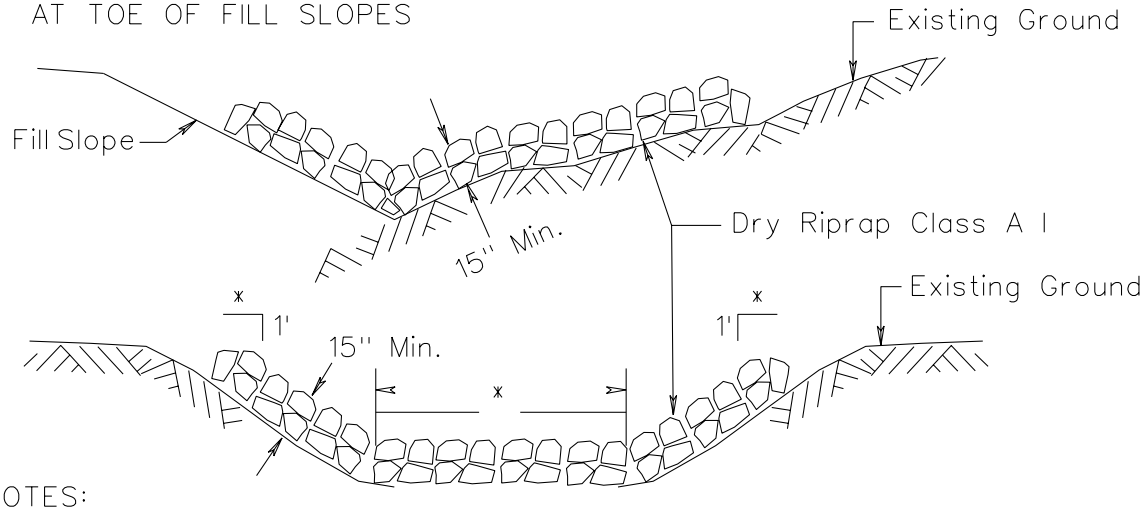
IF REMOVAL OF BRUSH SILT BARRIER IS REQUIRED BY THE ENGINEER, THE COST OF REMOVAL AND DISPOSAL OF BRUSH SHALL BE IN ACCORDANCE WITH SECTION 109.05 OF THE SPECIFICATIONS.

THE LOCATIONS OF THE CHECK DAMS AS SHOWN ON THESE PLANS ARE APPROX. ONLY. SUCH LOCATIONS MAY BE CHANGED OR DAMS MAY BE ADDED OR DELETED AS DIRECTED BY THE ENGINEER.

ROCK FOR CHECK DAMS, EROSION CONTROL & RIPRAP IN CHANNELS TO BE IN ACCORDANCE WITH SECTION 414 and Section 203 OF THE ROAD & BRIDGE SPECIFICATIONS.

SILT REMOVAL AND SEDIMENT CLEANOUT FROM EROSION AND SEDIMENT CONTROL ITEMS WILL BE PERFORMED WHEN THE ITEM REACHES 1/2 OF ITS CAPACITY, HEIGHT OR DEPTH. PAYMENT WILL BE IN C.Y. OF SILTATION CONTROL EXCAVATION.

SUGGESTED METHOD OF PLACING RIPRAP FOR EROSION CONTROL IN CHANNELS, DITCHES, & AT TOE OF FILL SLOPES



NOTES:

The depth of protection will depend on whatever depth is attainable, with the riprap being evenly spread with the quantity shown on these plans. Riprap may be added or deleted as found necessary by the Engineer.

* Side slopes and bottom width (if trapezoidal) shown in typical section of proposed ditch or channel.

TEMPORARY EROSION & SILTATION CONTROL

TEMPORARY BERM & SLOPE DRAIN

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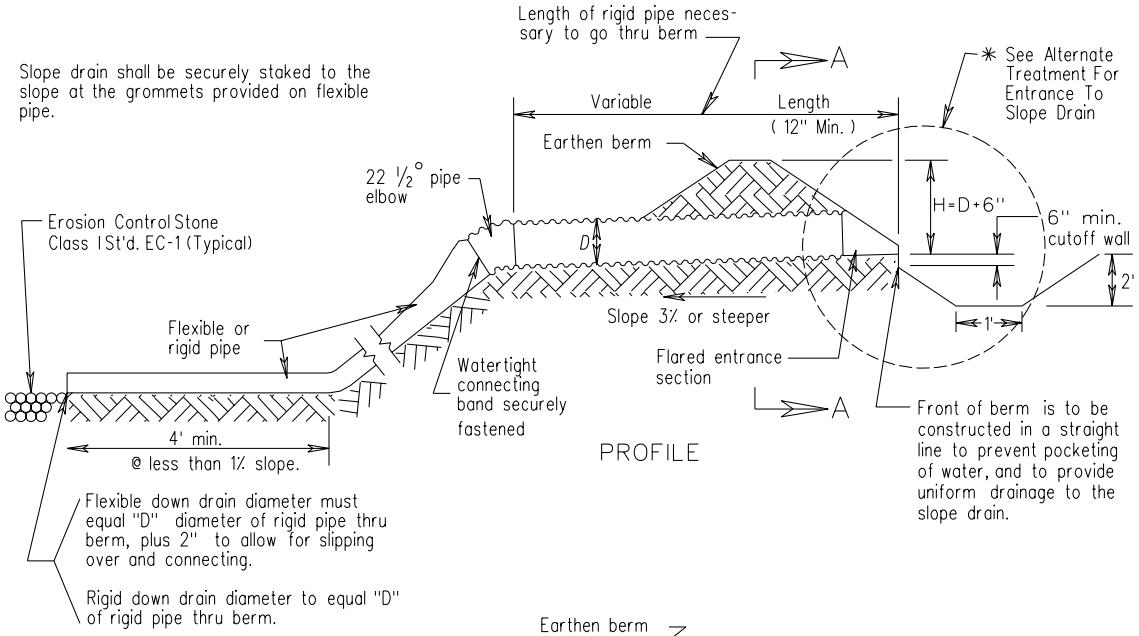
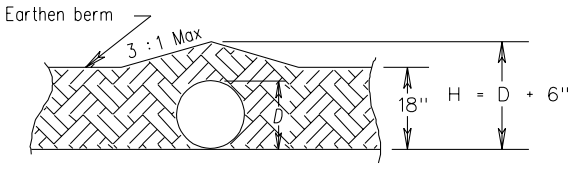
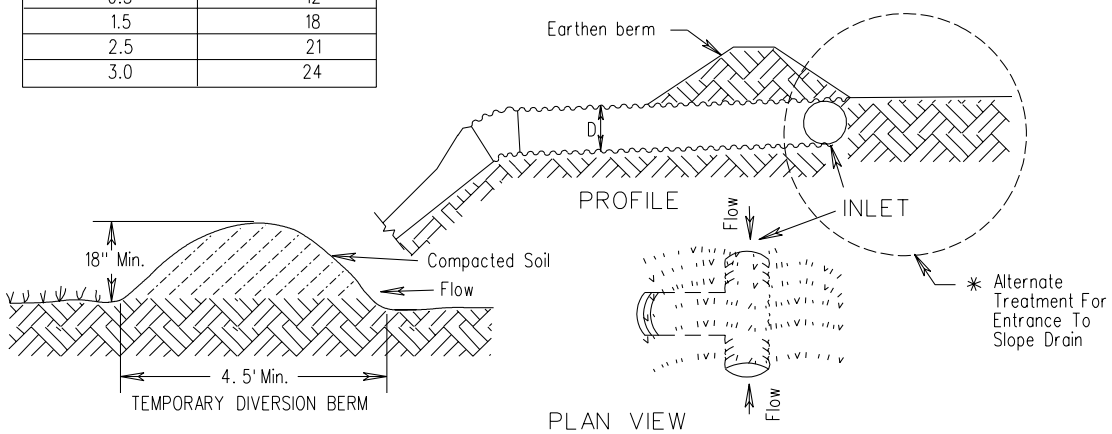




SECTION A-A

TABLE	
SIZE OF SLOPE DRAIN	
Maximum Drainage Area (Acres)	Minimum Pipe Diameter, D (in.)
0.5	12
1.5	18
2.5	21
3.0	24

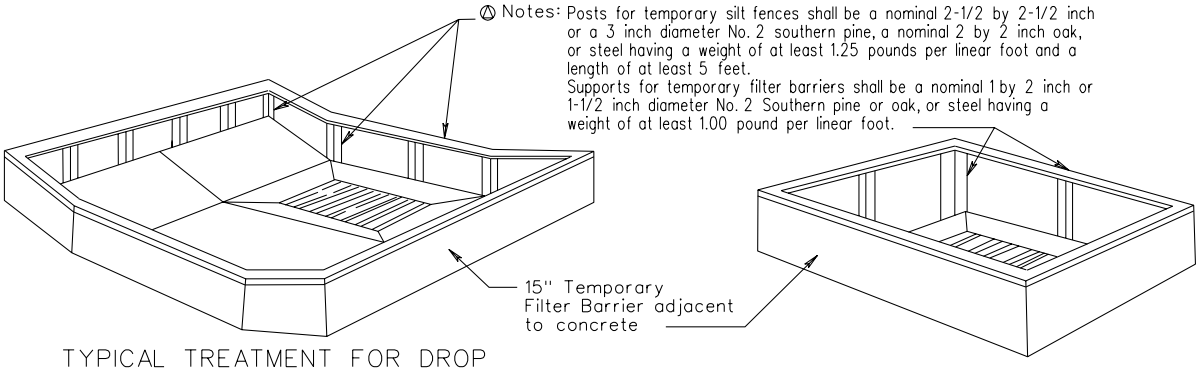


Standard T-Section

TEMPORARY EROSION & SILTATION CONTROL

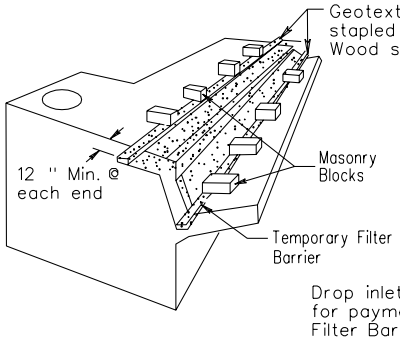
DROP INLET SILT TRAP

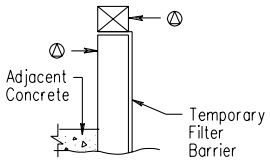
Rev. 6-97



TYPICAL TREATMENT FOR DROP INLET WITH CONC. SLAB

TYPICAL TREATMENT FOR DROP INLET WITHOUT CONC. SLAB





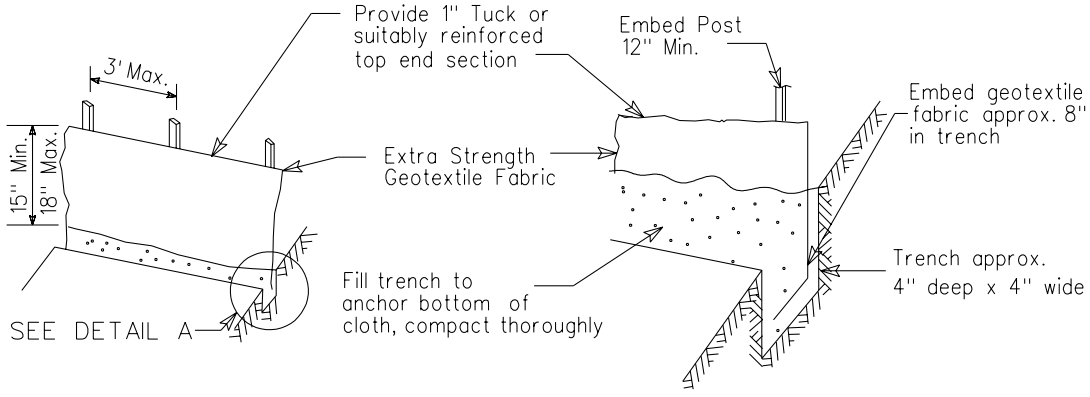
TYPICAL TREATMENT CURB DROP INLET

Drop inlet silt traps will be measured for payment in linear feet of Temporary Filter Barrier.

Curb Drop Inlet Filter Barrier will be measured in linear feet along the throat and paid for as Temporary Filter Barrier.

Geotextile products designed to be inserted into grated drop Inlets or designed to cover the slots of slot drop inlets that have been approved for use on VDOT projects and are found on VDOT's SPEL list may be substituted for the drop inlet protection devices.

TEMPORARY FILTER BARRIER

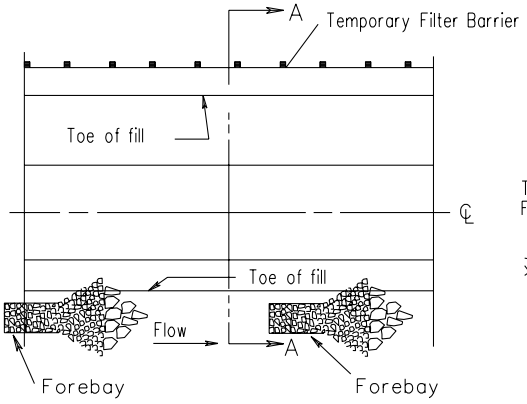


DETAIL A

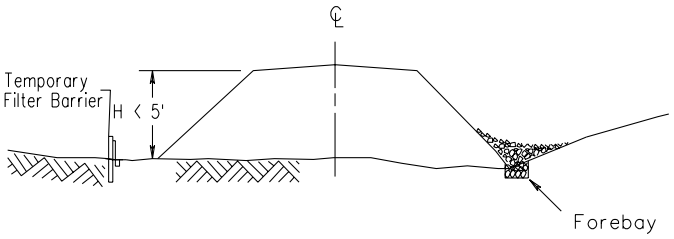
TEMPORARY EROSION & SILTATION CONTROL

TYPICAL DETAIL FOR TEMPORARY FILTER BARRIER AT TOE OF FILL

Rev. 6-97

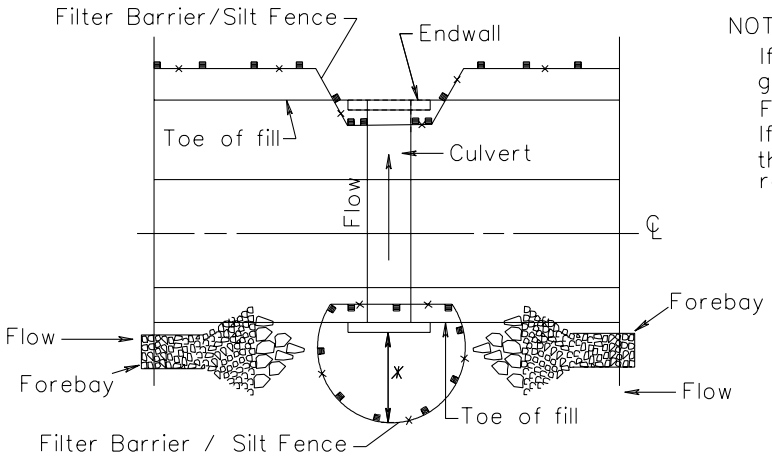


PLAN



SECTION A-A

TYPICAL DETAIL FOR TEMPORARY FILTER BARRIER / SILT FENCE AT CULVERT OR PIPE



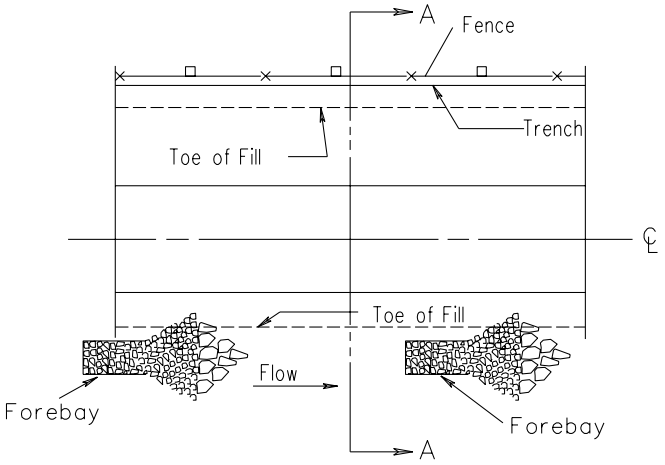
NOTE:
If any portion of Fill is greater than 5', Silt Fence is required.
If Fill height is less than 5', Filter Barrier is required.

* Distance is 6' minimum if flow is toward the embankment. To be contained in right of way or easement.

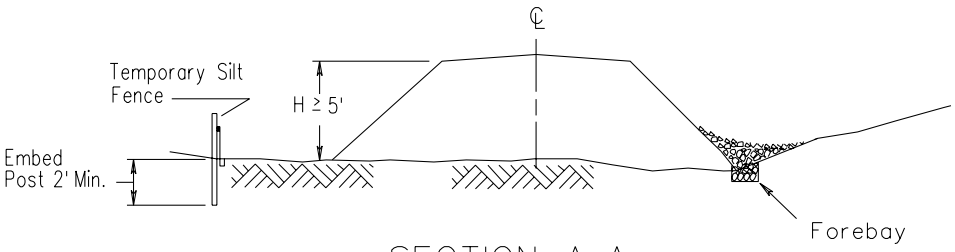
TEMPORARY EROSION & SILTATION CONTROL

Rev. 6-97

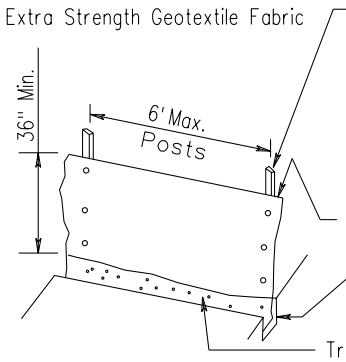
TEMPORARY SILT FENCE



NOTE:
Rock Check Dam is to be constructed in accordance with the Road and Bridge Specifications.



SECTION A-A



Posts for temporary silt fences shall be a nominal 2-1/2 inch by 2-1/2 inch or a 3 inch diameter No. 2 Southern pine, a nominal 2 by 2 inch oak, or steel having a weight of at least 1.25 pounds per linear foot and a length of at least 5 feet.

Supports for temporary filter barriers shall be a nominal 1 by 2 inch or 1-1/2 inch diameter No. 2 Southern pine or oak, or steel having a mass of at least 1.00 pound per linear foot.

Provide 1" Tuck or suitably reinforced top end section.

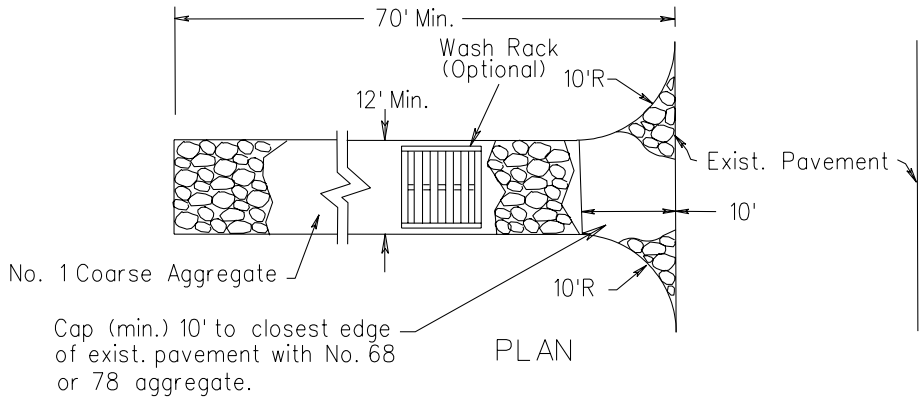
Embed Geotextile Fabric approx. 8" in trench.

Trench approx. 4" X 4" wide
Fill trench to anchor bottom of Fabric, compact thoroughly.

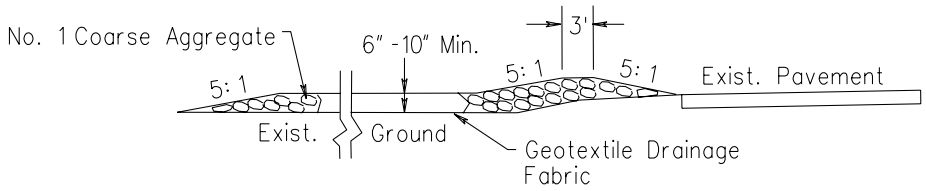
TEMPORARY EROSION & SILTATION CONTROL

MINIMUM REQUIREMENTS FOR STABILIZIED CONSTRUCTION ENTRANCE

Rev. 6-96



PLAN



PROFILE

NOTES:

Surface water shall be piped under the construction entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.

The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way shall be removed immediately.

Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.

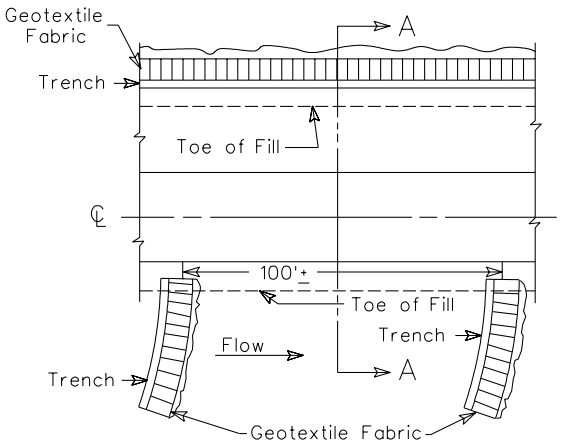
Periodic inspection and needed maintenance shall be provided after heavy use and each rain.

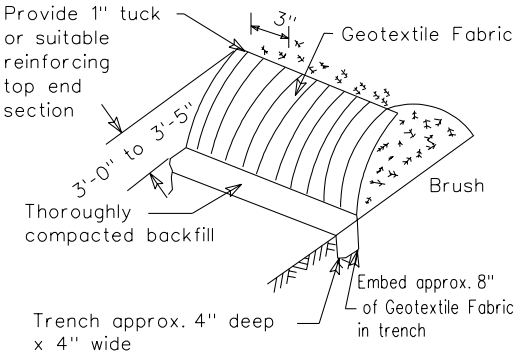
Cost of Stabilized Construction Entrances are to be included in other pay items.

TEMPORARY EROSION & SILTATION CONTROL

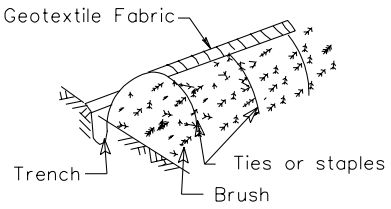
Rev. 6-96

SILT BARRIERS
TYPICAL DETAIL FOR BRUSH BARRIER
(TO BE USED AT ALL APPLICABLE LOCATIONS)





FRONT ISOMETRIC

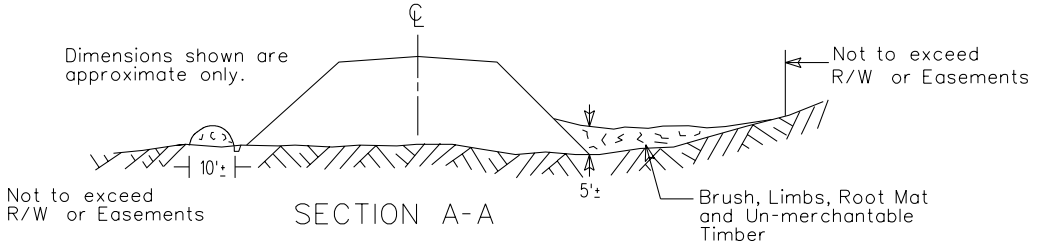


BACK ISOMETRIC

NOTES:

Brush barriers shall be constructed at locations shown on the plans or as directed by the Engr. Brush shall be piled against existing trees to prevent movement of barrier. Brush shall be piled as tightly as possible and weighted down by unmerchantable logs.

Geotextile fabric conforming to the Road and Bridge Specifications shall be installed as detailed above. Geotextile fabric may also be attached to existing fences when specified on the plans or directed by the Engineer.



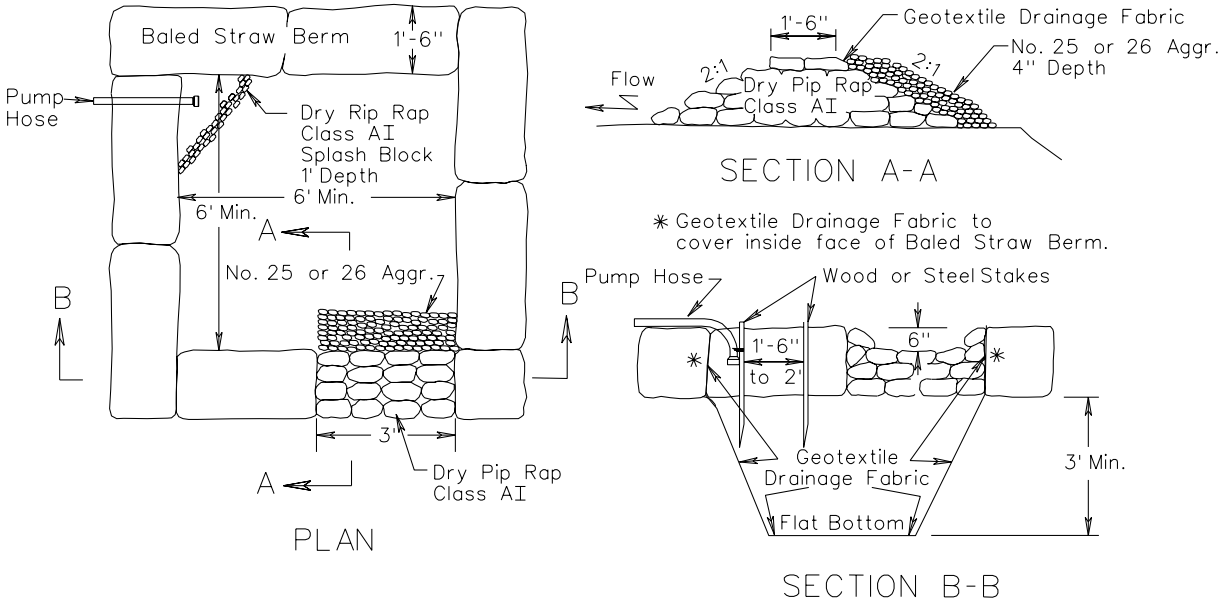
SECTION A-A

NO BRUSH WILL BE DESTROYED OR REMOVED FROM THE PROJECT UNTIL ALL BRUSH SILT BARRIERS ARE IN PLACE AND HAVE BEEN INSPECTED AND APPROVED BY THE ENGINEER.

TEMPORARY EROSION & SILTATION CONTROL

TYPICAL DEWATERING BASIN

Rev. 6-96



NOTES:

Dewatering Basin size shall be determined by the formula 16 X gal./min. of pump = cu. ft. of storage capacity.

This work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-ladened water pumped from a construction site to follow filtration before the water reenters the waterway. Pumping into these basins shall cease when the flow from the basin becomes sediment-ladened.

Surface water flow shall be diverted around this device.

The outfall from the basin(s) shall have a stabilized conveyance to receiving waters.

Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in an approved disposal area outside of the 100-year floodplain unless otherwise approved on the plans.

Sediment control devices are to remain in place until all disturbed areas are stabilized and the Engineer approves their removal.

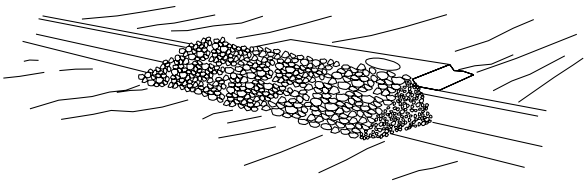
Ground contours shall be returned to their original condition unless specifically approved otherwise by the Engineer.

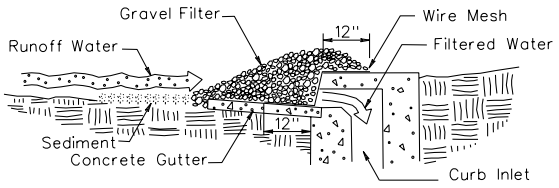
Geotextile products designed to be inserted into grated drop inlets or designed to cover the slots of slots drop inlets that have been approved for use on VDOT projets and are found on VDOT's SPEL list may be substituted for the drop inlet protection devices.

TEMPORARY EROSION & SILTATION CONTROL

Rev. 6-97

ALTERNATE DROP INLET SILT TRAP (GRAVEL TYPE)





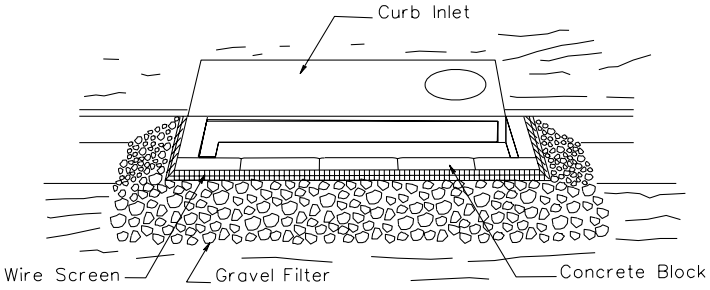
SECTIONAL VIEW

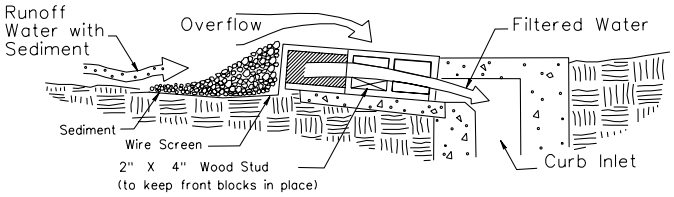
Specific Application

This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

Geotextile products designed to be inserted into grated drop Inlets or designed to cover the slots of slot drop inlets that have been approved for use on VDOT projects and are found on VDOT's SPEL list may be substituted for the drop inlet protection devices.

ALTERNATE DROP INLET SILT TRAP (BLOCK AND GRAVEL TYPE)





SECTIONAL VIEW

Specific Application

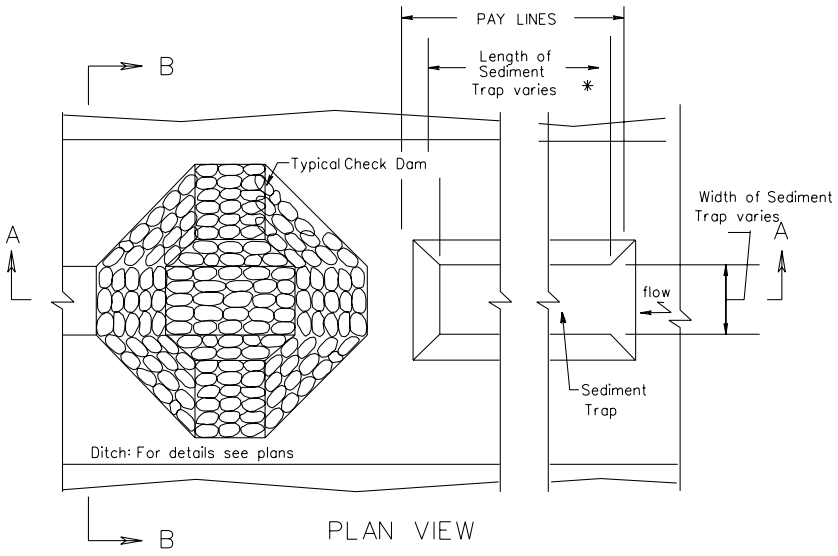
This method of inlet protection is applicable at curb inlets where an overflow capability is necessary to prevent excessive ponding in front of the structure.

Geotextile products designed to be inserted into grated drop Inlets or designed to cover the slots of slot drop inlets that have been approved for use on VDOT projects and are found on VDOT's SPEL list may be substituted for the drop inlet protection devices.

TEMPORARY EROSION & SILTATION CONTROL

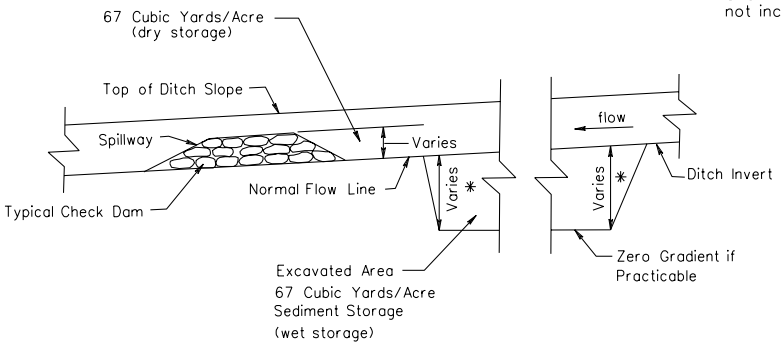
Rev. 6-97

TYPICAL SEDIMENT TRAP



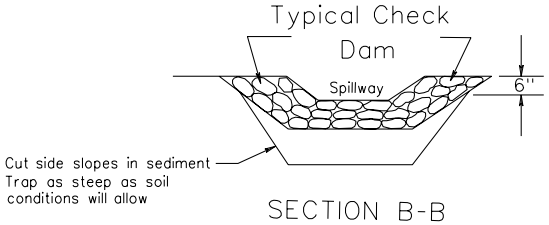
PLAN VIEW

NOTES:
Check Dam is shown for illustration only and is not included in payment for Sediment Trap.



SECTION A-A

Note: The sediment storage volume shall be 142 Cu./Yds. of total contributing drainage area and shall consist of half in the form of wet storage and half in the form of dry storage.

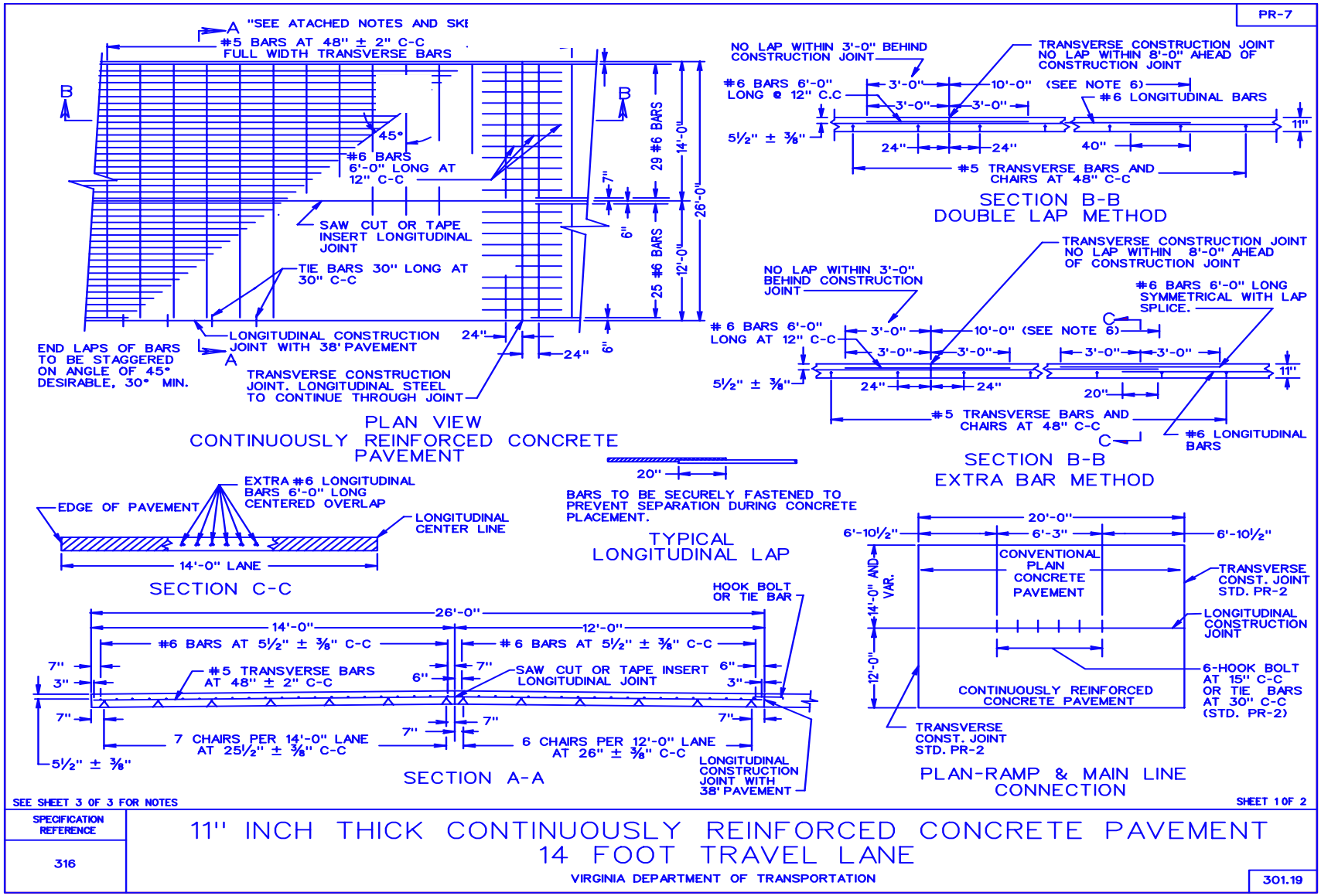


SECTION B-B

* Where drainage areas exceed 1 acre or ditch grade exceeds 3%, a Sediment Trap shall be installed with each Check Dam with minimum dimensions of 12" deep and 6' in length.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

PR – 7 DETAILS



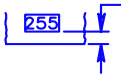
ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

PR – 7 DETAIL NOTES

PR-7

NOTES:

1. HOOK BOLTS OR TIE BARS ARE TO BE PLACED IN THE SAME HORIZONTAL PLANE AS THE #5 TRANSVERSE BARS. WHERE NECESSARY, ADJUST THE LOCATION OF THE HOOK BOLTS OR TIE BARS TO A 2½" MINIMUM CLEARANCE BETWEEM HOOK BOLTS OR TIE BARS AND TRANSVERSE BARS.
2. TRANSVERSE CONSTRUCTION JOINT BARS ARE TO BE PLACED IN THE SAME HORIZONTAL PLANE AS THE #6 LONGITUDINAL BARS.
3. #6 LONGITUDINAL BARS ARE TO BE LAPPED AND TIED IN THE SAME HORIZONTAL PLANE.
4. FOR THE 38 FOOT WIDTH PAVEMENT USE SINGLE 12 FOOT LANES WITH TWO LONGITUDINAL CONSTRUCTION JOINTS OR 12 FOOT AND 14 FOOT LANES WITH ONE LONGITUDINAL CONSTRUCTION JOINT AND ONE SAW CUT OR TAPE INSERT LONGITUDINAL JOINT. TRANSVERSE BARS SHALL NOT EXTEND THROUGH LONGITUDINAL CONSTRUCTION JOINTS, BUT SHALL EXTEND FULL LENGTH (25'-6") FOR SAW CUT OR TAPE INSERT LONGITUDINAL JOINT.
5. SMOOTH SURFACE TO BE STEEL TROWELED 8" IN FROM EDGE OF PAVEMENT EVERY 500 FT., AND THE STATION NUMBER STAMPED INTO IT AS SHOWN BELOW. THE DATE IS TO BE SHOWN IN A SIMILIAR MANNER AT THE BEGINNING OF EACH DAYS POUR. BOTH OUTSIDE EDGES OF DIVIDED HIGHWAY ARE TO BE STAMPED. ONE EDGE OF UNDIVIDED HIGHWAY WHERE FEASIBLE (TRAVEL LANE).



6. DOUBLE LAP REQUIREMENT (40") AND THE EXTRA BAR METHOD APPLY ONLY TO LAPS FALLING WITHIN AN AREA OF 10' BEYOND THE CONSTRUCTION JOINT.
7. CONCRETE FOR LUG ANCHORS SHALL BE POURED AGAINST COMPACTED SUBGRADE. CONCRETE FOR LUGS AND ANCHOR SLAB MAY BE POURED MONOLITHICALLY OR POURED USING RAISED KEY CONSTRUCTION JOINT METHOD. ADEQUATE CONSOLIDATION OF CONCRETE IN LUGS WILL BE OBTAINED WITHOUT DISPLACING LONGITUDINAL CONTINUOUS STEEL, BY THE USE OF INTERNAL VIBRATION. WHEN LESS THAN FULL WIDTH LUG AND PAVEMENT SLAB IS PLACED, THE #5 TRANSVERSE STEEL IN THE LUGS SHALL BE EXTENDED, LAPPED AND SPLICED AT LEAST 25 DIAMETERS.
8. LONGITUDINAL STEEL TO CONTINUE THROUGH JOINT. EXTRA #6 BARS 20'-0" LONG SHALL BE SPACED AT 12" C-C.
9. CONCRETE SHOULD BE ADEQUATELY VIBRATED UNDER BEAM FLANGE TO ELIMINATE HONEYCOMBS.
10. ANCHOR SLAB TYPE I IS TO BE USED IN FIRM SOILS ONLY. FOR AASHTO CLASSIFICATION SOILS A-1 THROUGH A-4, 3 ANCHOR LUGS ARE REQUIRED (ANCHOR SLAB LENGTH = 55'. FOR AASHTO CLASSIFICATION SOILS A-5 THROUGH A-7, 5 ANCHOR LUGS ARE REQUIRED (ANCHOR SLAB LENGTH = 85'). USE SAME REINFORCEMENT SIZE AND SPACING AS IN CONTINUOUS PAVEMENT. ANCHOR SLAB TYPE I IS USED TO RESTRICT MOVEMENT AGAINST THE STRUCTURE.
11. ANCHOR SLAB TYPE TYPE II MUST BE USED WHEN COHESIONLESS OR SOFT CLAY SOILS ARE ENCOUNTERED. USE SAME REINFORCEMENT SIZE AND SPACING AS IN CONTINUOUS PAVEMENT. ANCHOR SLAB TYPE II ACCOMMODATES MOVEMENT OF THE CONTINUOUS PAVEMENT.
12. WELD STEEL END PLATE TO BOTH ENDS OF WF BEAM TO SEAL ENDS. WELD SHEAR CONNECTORS TO WEB AND FLANGE OF WF BEAM.
13. 2" MINIMUM CONCRETE COVER FOR STEEL IN SUB-SLABS.
14. WIDE FLANGE BEAM TO BE GALVANIZED PER SECTION 233 OF THE ROAD AND BRIDGE SPECIFICATIONS.
15. ALL REINFORCING BARS SHALL BE GRADE 60 STEEL.

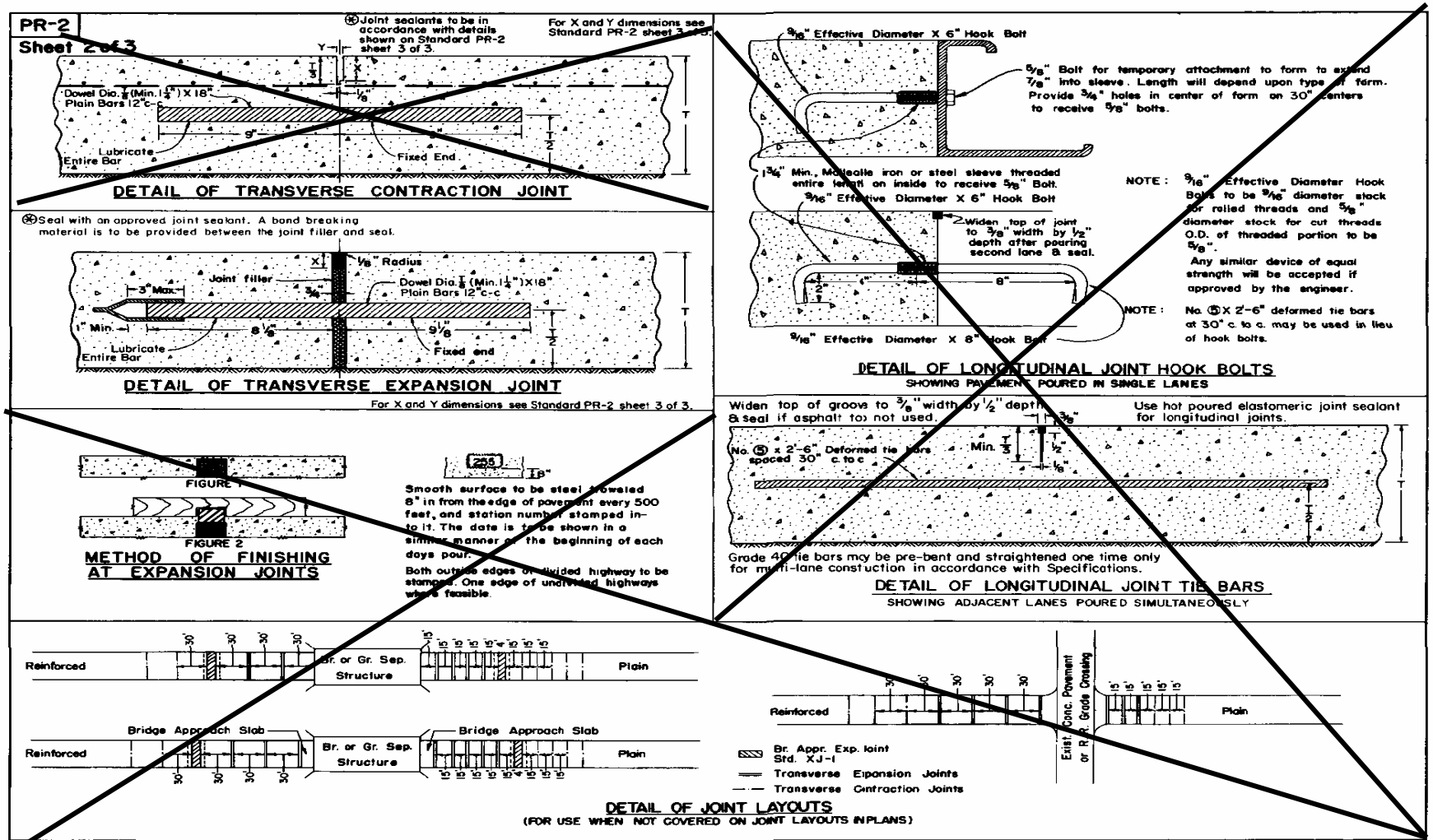
SHEET 2 OF 2

SPECIFICATION REFERENCE
316

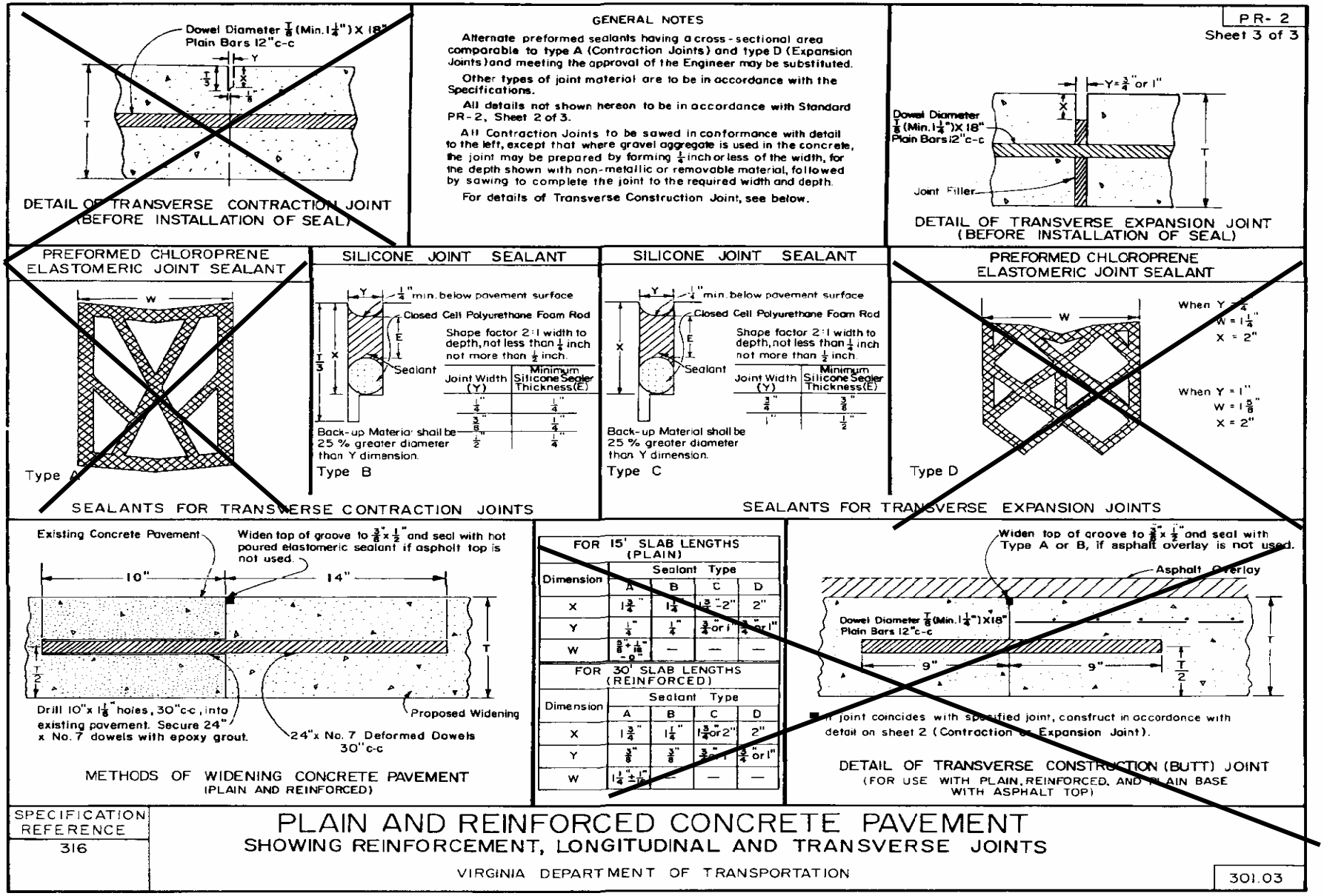
11'' INCH THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
14 FOOT TRAVEL LANE
VIRGINIA DEPARTMENT OF TRANSPORTATION

301.21

PR – 2 JOINT DETAILS

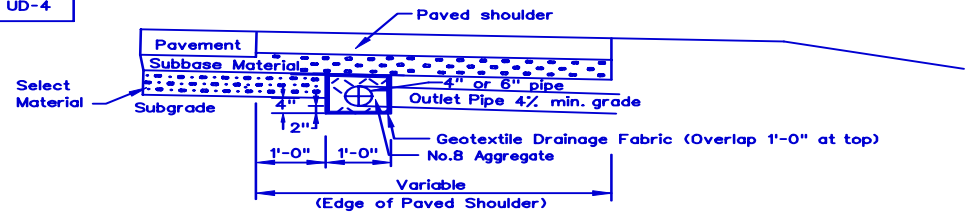


PR – 2 JOINT DETAIL

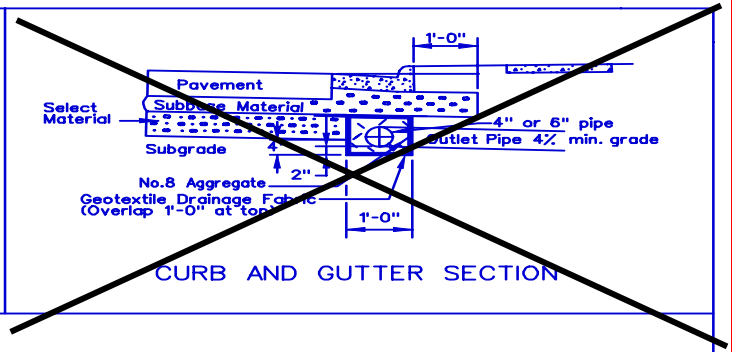


UD – 4 DETAILS

UD-4



PAVED SHOULDER SECTION



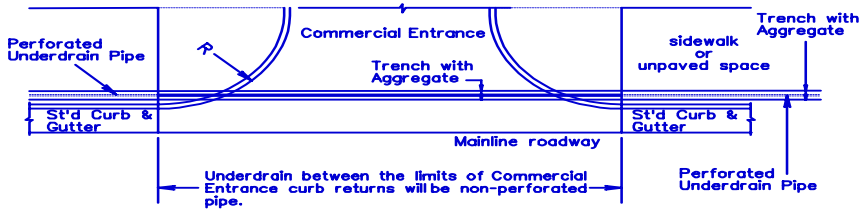
CURB AND GUTTER SECTION

Notes:

Outlet pipes are to be installed on 4% min. grade to underdrain pipe and located every 330' maximum for 4" diameter pipe or 500' maximum for 6" diameter pipe or as noted on plans.

Subbase material shall have a maximum of 8% material by weight finer than sieve No. 200.

Within the limits of a Commercial Entrance Non-Perforated Pipe shall be utilized in lieu of Perforated Pipe.



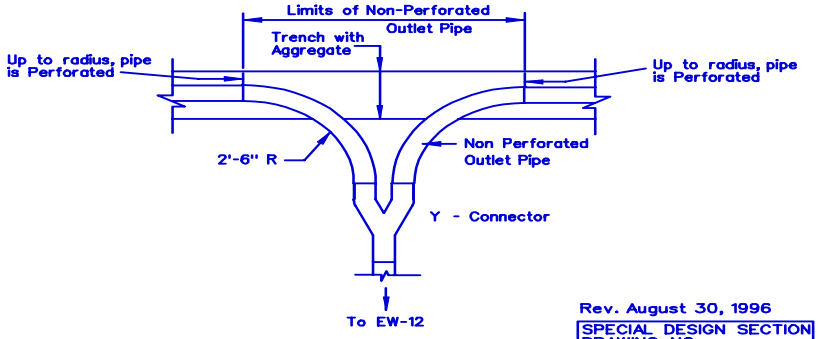
PERFORATED PIPE

Type of Pipe	Crushing Strength			
	*W.T.	4" Nom. Dia.	*W.T.	6" Nom. Dia.
Corrugated Aluminum			0.48	
Smooth Wall PVC	.103		.153	
Corrugated PE		AASHTO M-252		AASHTO M-252

NON-PERFORATED PIPE FOR USE UNDER COMMERCIAL ENTRANCES AND FOR OUTLETS

Type of Pipe	Crushing Strength			
	*W.T.	4" Nom. Dia.	*W.T.	6" Nom. Dia.
Corrugated Aluminum			0.48	
Smooth Wall PVC	.103		.153	
Smooth Wall PE		70 PSI ***		70 PSI ***

* Wall Thickness (min) - inches
*** Tested according to ASTM D-2412 at 5% deflection.



OUTLET PIPE

Rev. August 30, 1996
SPECIAL DESIGN SECTION DRAWING NO.
Sheet 1 of 2

Sheet 1 Of 2

STANDARD PAVEMENT EDGE UNDERDRAIN WITHOUT STABILIZED DRAINAGE LAYER

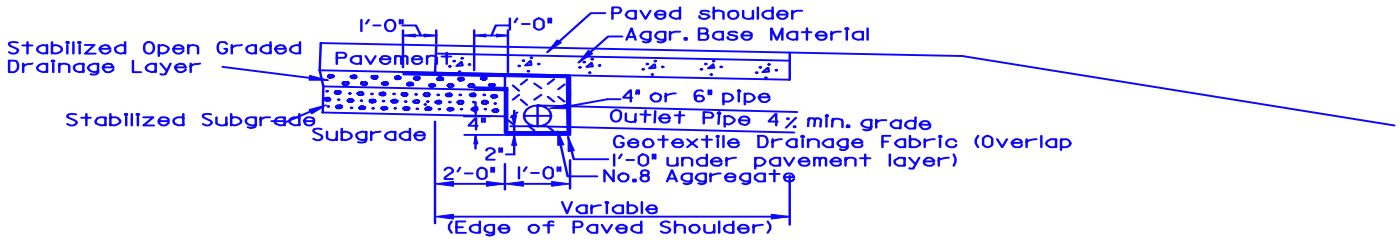
VIRGINIA DEPARTMENT OF TRANSPORTATION

108.06

SPECIFICATION REFERENCE
240
258
501
701

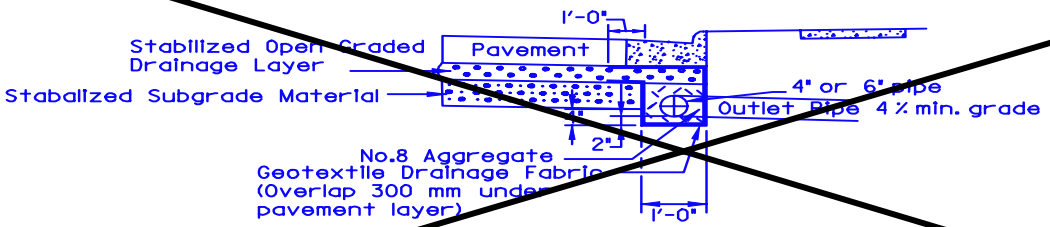
UD-4

Within the limits of a commercial entrance the Non-Perforated Outlet Pipe shall be utilized in lieu of the Longitudinal Perforated Pipe.



PAVED SHOULDER SECTION
(FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER)

~~Within the limits of a commercial entrance the Non-Perforated Outlet Pipe shall be utilized in lieu of the Longitudinal Perforated Pipe.~~

~~ 
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~~CURB AND GUTTER SECTION
(FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER)~~

Rev. August 30, 1996

SPECIAL DESIGN SECTION
DRAWING NO. A-81

Sheet 2 of 2

SPECIFICATION REFERENCE
240
258
501
701

STANDARD PAVEMENT EDGEDRAIN WITH STABILIZED OPEN-GRADED DRAINAGE LAYER

VIRGINIA DEPARTMENT OF TRANSPORTATION

108.07

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

GENERAL NOTES
(NO PLAN PROJECT DOCUMENT ASSEMBLY)

GRADING

The grade line denotes top of finished pavement unless shown otherwise on typical sections.

DRAINAGE

All pipe on this project shall be in accordance with the allowable pipe types as they contained within this document. For strength, sheet thickness, or class designation; available sizes; height of fill limitations; and method of bedding required for a particular height of cover, see applicable VDOT Road and Bridge Standards PC-1 and PB-1.

PAVEMENT

The materials listed below will be paid for on a tonnage basis on this project. The theoretical tonnage shown in this assembly is based on the weight shown hereon. The weight will vary in accordance with the specific gravity of the aggregates and the asphaltic content of the mix actually used to secure the design depth. The weight of the asphalt concrete is based on 95% of theoretical maximum density.

Aggregate Base Material Type I No. 21A @ 142 lbs. per cu. ft.
(Plus 6 % moisture correction).

EROSION AND SILTATION (E&S) CONTROL

The temporary erosion and siltation controls shown in the assembly are intended to provide a general plan for controlling erosion and siltation within the project limits. The contractor, in conjunction with the Engineer and/or Environmental Monitor, shall adjust the location, quantity and type of erosion and siltation controls required based on their sequence of construction and actual field conditions.

All perimeter erosion and siltation controls shall be installed prior to any land disturbing activities.

Rock for Check Dams, Erosion Control and Riprap in channels shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

Silt removal and sediment clean-out from erosion and siltation control items shall be performed in accordance with the following:

All other Erosion and Siltation Control items:
When the capacity, height or depth has been reduced by 50%.

TRAFFIC CONTROL

Scales will be closed for demolition and re-construction. A 72 hour notice will be required before weigh scales can be closed.

Contractor will be allowed to have only one side of the weigh scales closed at any given time. Once scale is closed for reconstruction, the contractor must complete work and reopen scale to traffic before closure of opposite side is allowed.

UTILITIES

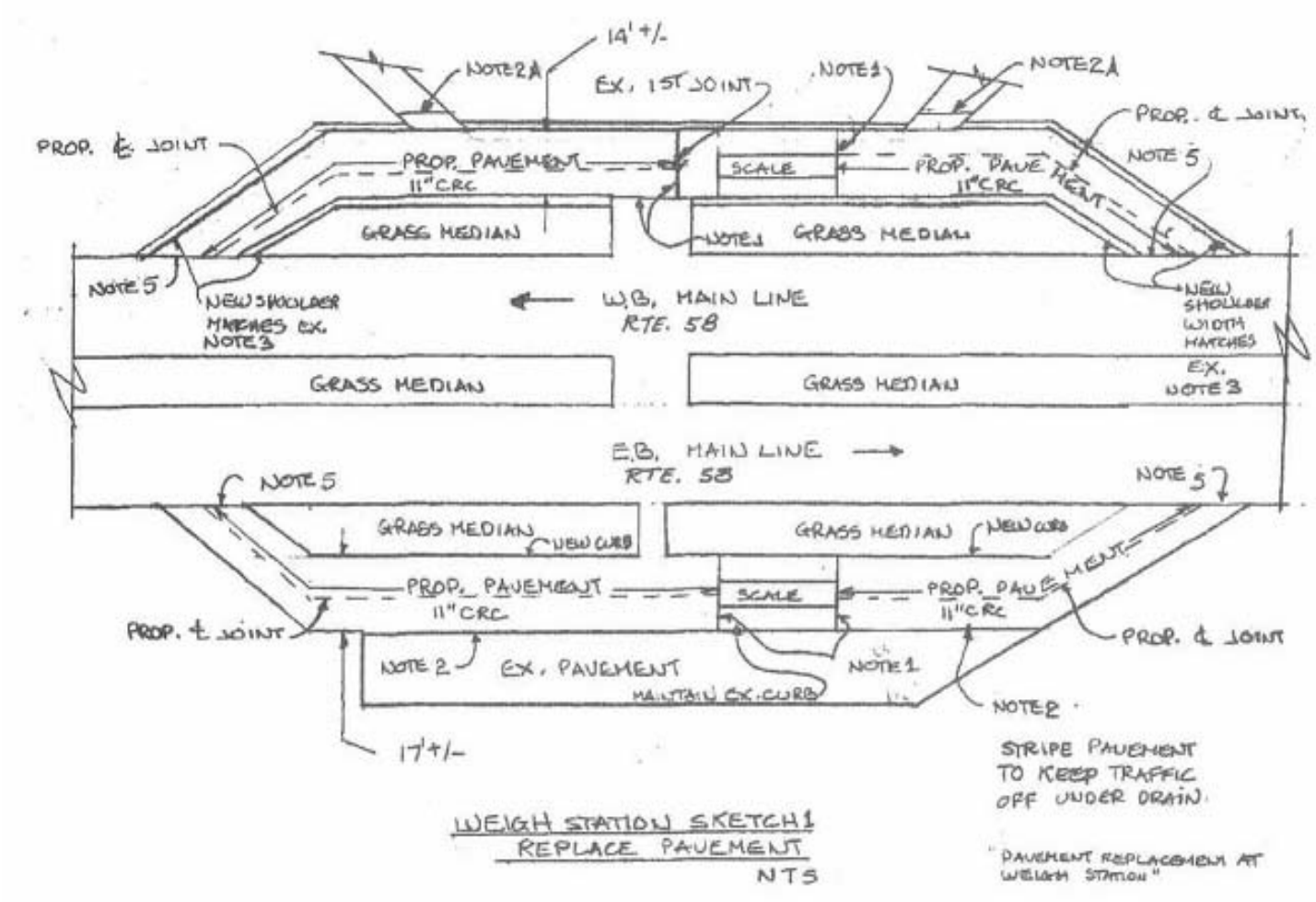
In addition to contacting Ms. Utility per specifications, the contractor will be responsible to notify DMV representatives to have DMV underground property marked. A one (1) week notice will be required.

DMV CONTACTS:

Mr. C.T. Wicker @ 1-804-367-0062, or Technical Services @ 1-804-839-5453

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

PROJECT LAYOUT & DETAIL SKETCH



SCOPE OF WORK:

- Demolition of existing Concrete Pavement, Asphalt shoulder pavements, and Curbs where noted in sketch on approach and departure of Weigh Scales, both eastbound and westbound.
- Install new full depth Concrete Pavement and Asphalt Shoulder Pavement to match Typical Sections.
- Install new Curb where noted on sketch and as directed.
- Install Underdrain system under the westbound pavement structure as shown on Typical Sections.
- Install new pavement markings where noted in sketch and as directed.

JOINT DETAIL NOTES

NOTE 1. The proposed continuously reinforced concrete pavement (CRCP) shall butt joint against the existing concrete tank surroundings the scales as shown on Sketch No.1. The concrete around the scales is referred to as "tank". The recommended procedures are as follows:

a. Make a full depth saw cut at 15 inches from the existing expansion joint at the concrete tank.
b. Use a jackhammer to expose the dowel bars using care to keep bars straight and level.
c. Inspect the dowel bars for rust or loss of diameter and determine if they are adequate for reuse.
d. Form expansion joints per VDOT PR-2, Sheet 2 of 3, Detail of Transverse Expansion Joint. The cap shall be placed in the proposed CRCP.
e. If the dowels are found to be inadequate saw cut them at the joint. Install new dowels with a 1.5 inch diameter by drilling into the concrete tank and insert the cap in CRCP per VDOT PR-2 as mentioned above.

NOTE 2. The proposed CRCP shall join the existing concrete pavement at longitudinal joints as shown on the attached Sketch No.1. The joints shall be per VDOT PR-2, Sheet 3 of 3, Methods of Widening Concrete Pavement. Do not use existing tie bars. Install new deformed tie bars per the same detail.

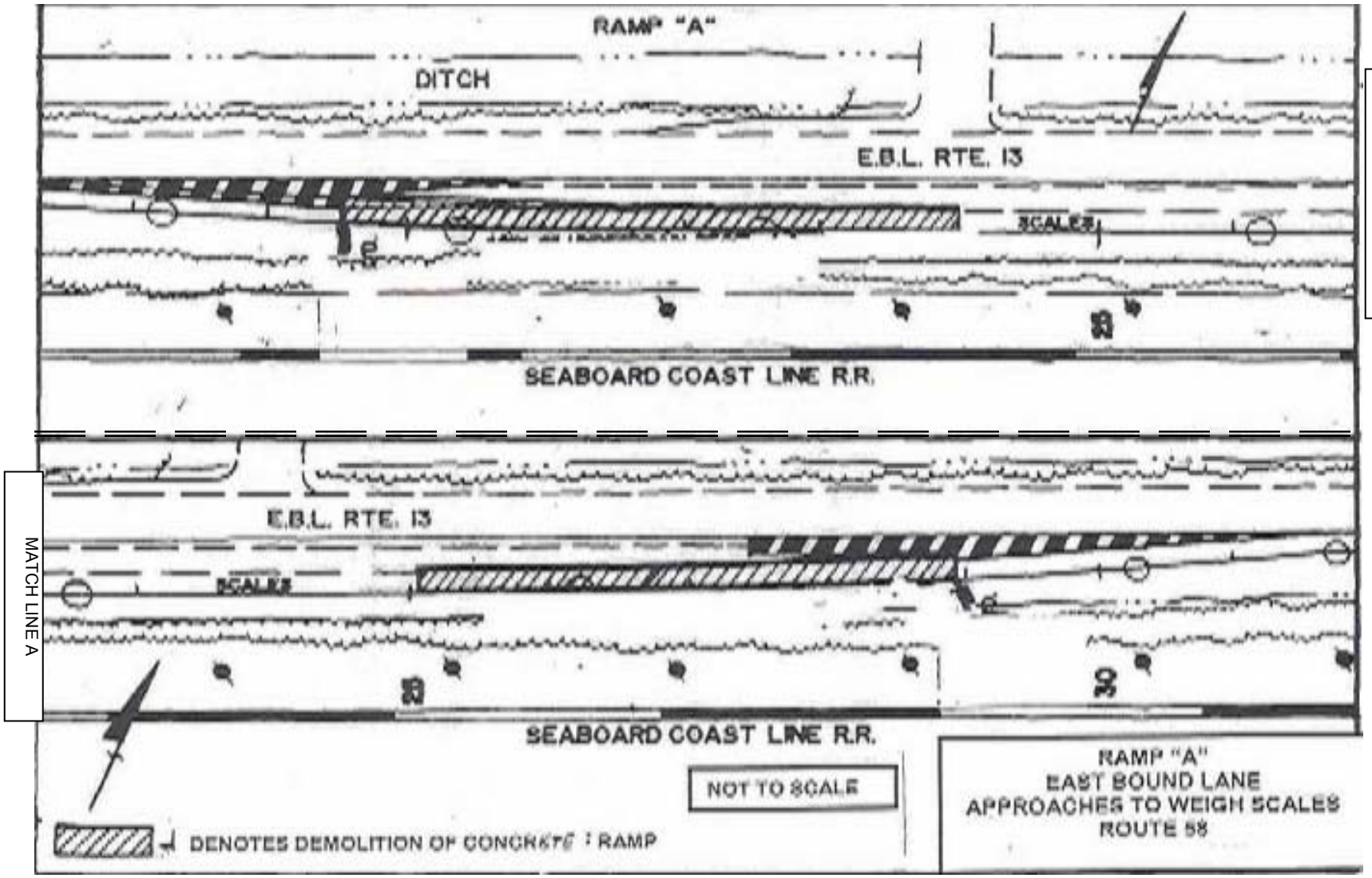
NOTE 2A. The proposed CRCP shall join the existing concrete pavement at an approximate distance of three (3) feet along the adjoining apron and along a full depth saw cut, which will allow the placement of the UD-4 in accordance with the sketches contained herein. The joints shall be per VDOT PR-2, Sheet 3 of 3, Methods of Widening Concrete Pavement. Install new deformed tie bars per the same detail. This concrete shall be poured monolithically with the main line.

NOTE 3. Install proposed shoulders to match the limits of existing shoulders at locations adjacent to the proposed CRCP as shown on Sketch No.1 and as directed by the VDOT Inspector. The shoulder pavement shall be 6" of2l-B aggregate and 2" IM- surface course.

NOTE 4. Use the attached VDOT Sheet UD-4, Sheet 2 of 2 for under drains with open graded drainage layers as the preferred detail. For the eastbound pavement, use the attached Sketch No.2 for the under drains as an alternative.

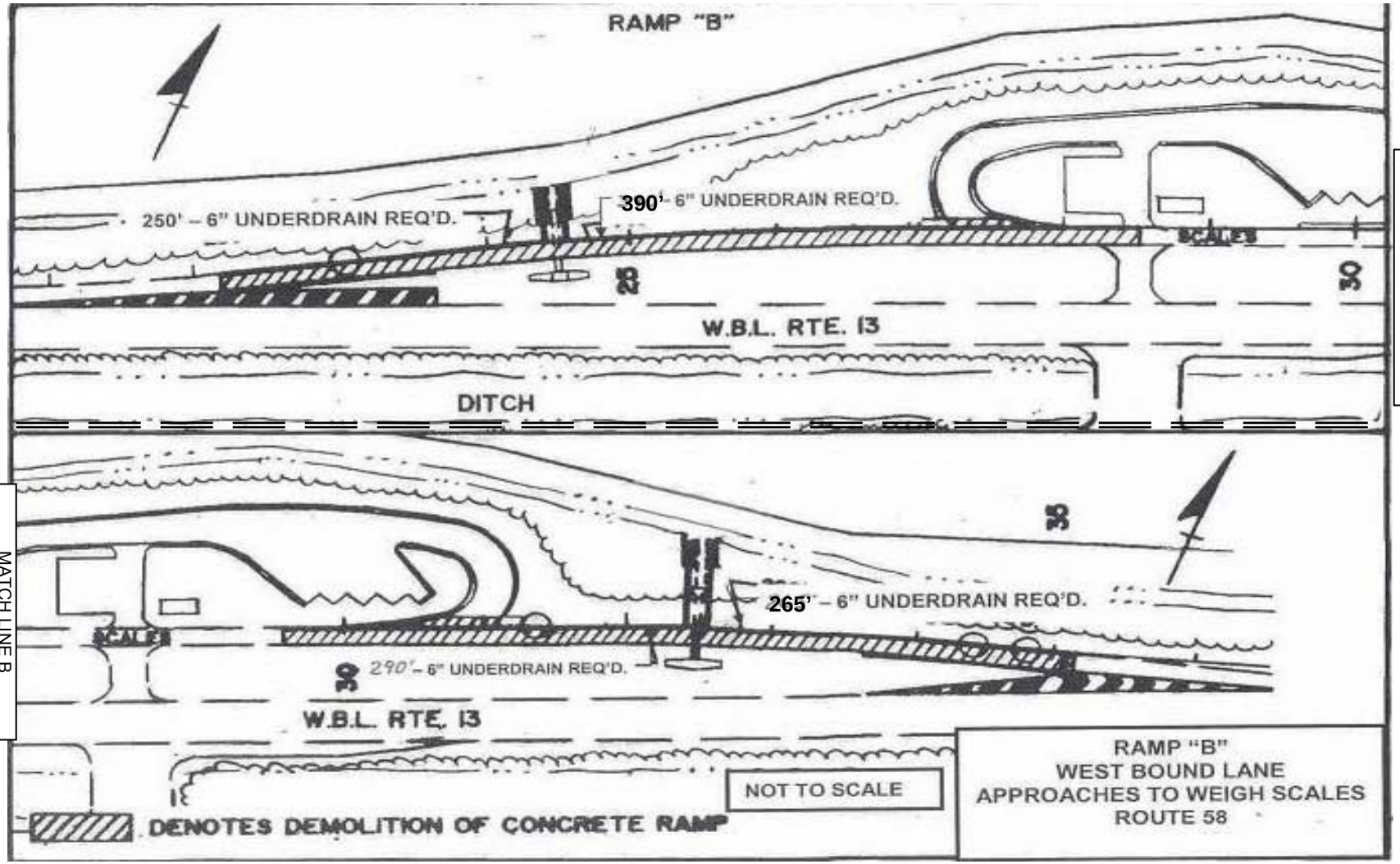
NOTE 5. In order to make a smooth transition between the existing asphalt buildup and new concrete pavement, the existing asphalt is to be milled and repaved on the approach and departure as required. This work is estimated to be approximately 50’ in length at an average thickness of 4”.

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263
RAMP "A" DETAIL



DENOTES GORE PAVEMENT BETWEEN MAINLINE AND ACCELERATION / DECELERATION LANE

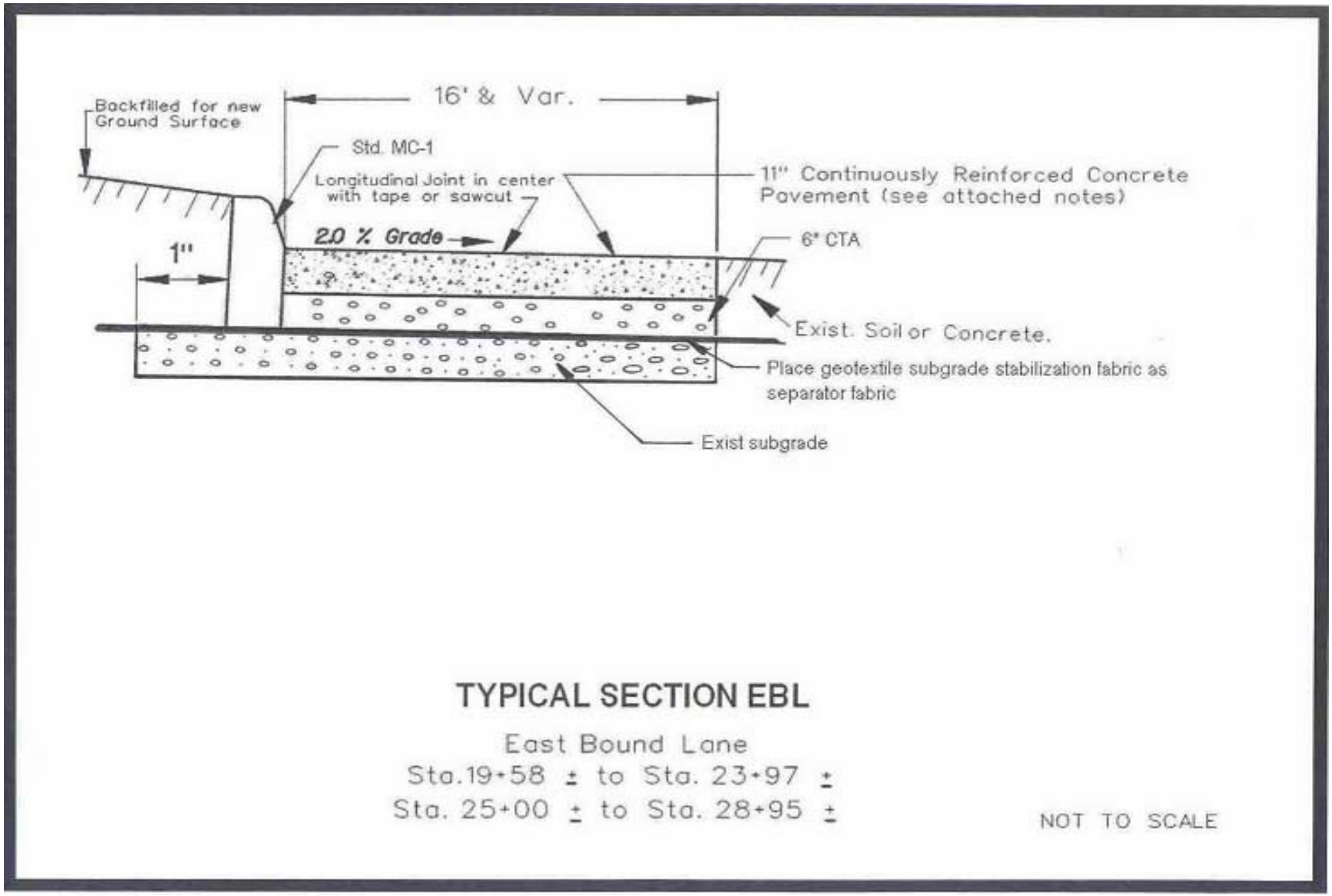
ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263
RAMP "B" DETAIL



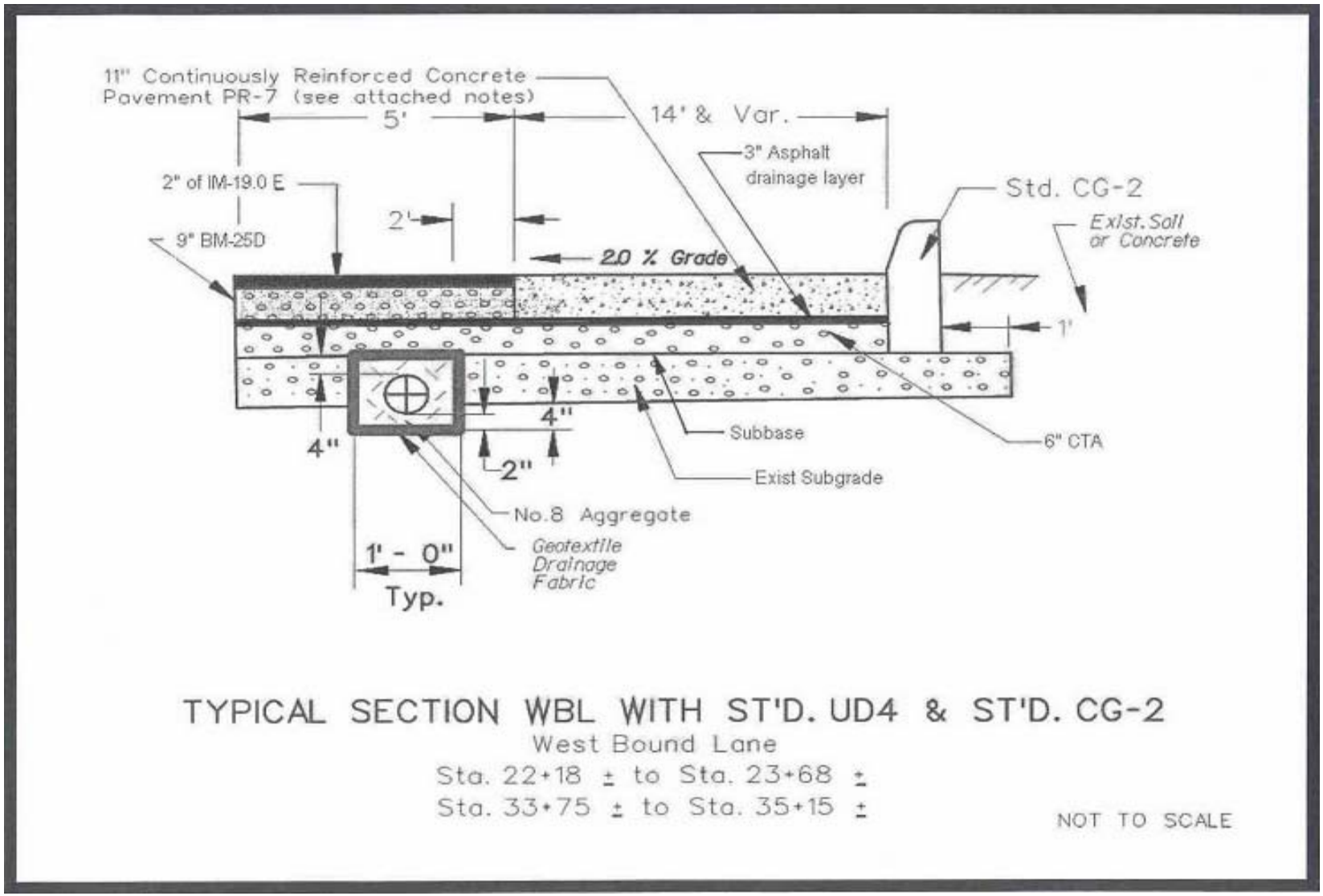
DENOTES GORE PAVEMENT BETWEEN MAINLINE AND ACCELERATION / DECELERATION LANE

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

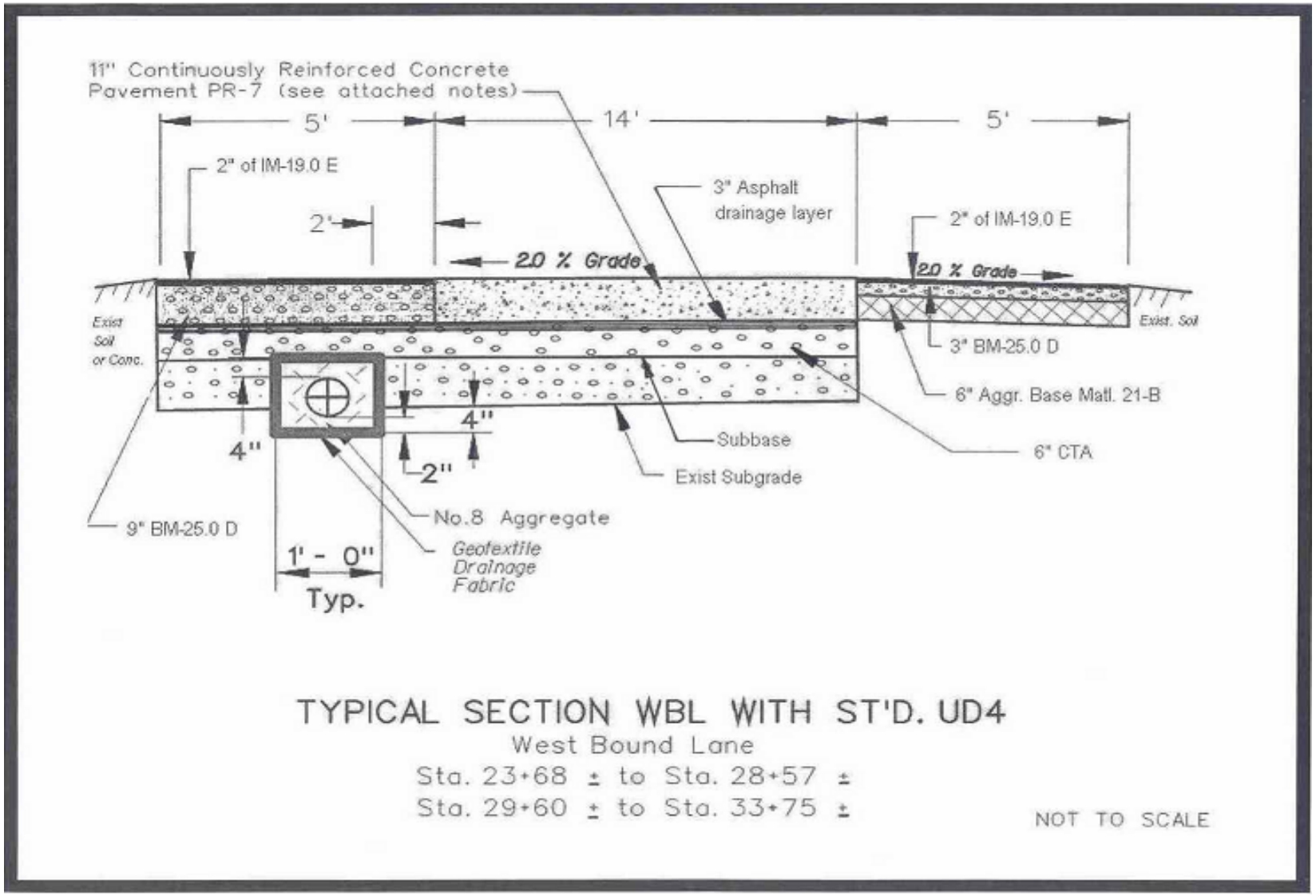
TYPICAL SECTION EASTBOUND LANE



ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263
TYPICAL SECTION WESTBOUND LANE 1 OF 2



ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263
TYPICAL SECTION WESTBOUND LANE 2 OF 2



TYPICAL SECTION WBL WITH ST'D. UD4

West Bound Lane

Sta. 23+68 ± to Sta. 28+57 ±

Sta. 29+60 ± to Sta. 33+75 ±

NOT TO SCALE

ORDER NO.: T94
CONTRACT ID. NO.: M558SKL74263

SUMMARY OF ESTIMATED QUANTITIES
PROJECT #2006-74-FSPA

DESCRIPTION	UNIT	QUANTITY
CONSTRUCTION SURVEYING	LS	1
GRADING	LS	1
GEOTEXTILE (SUBGRADE STABILIZATION)	SY	1800
UNDERDRAIN UD-4	LF	1260
CEM. STAB. AGGR. BASE MATL. TY. I. NO. 21A	TON	4125
STAB. OPEN GRADED MATERIAL	TON	195
AGGR. MATL. NO. 21B	TON	1190
ASPHALT CONCRETE TY. IM-19	TON	175
ASPHALT CONCRETE BASE COURSE TY. BM-25	TON	425
CONT. REINF. CONC PAVE 11"	SY	3400
NS SAW CUT, 11"	LF	125
STD. CURB CG-2	LF	300
STD. MED. CURB MC-1	LF	840
FLEXIBLE PAVEMENT PLANING	SY	1350
TYPE III BARRICADE 8'	EA	4
CONSTRUCTION SIGNS	SF	160
GROUP 2 CHANNELING DEVICES	DAY	15000
DEMOLITION OF PAVEMENT (RIGID)	SY	3400
DEMOLITION OF PAVEMENT (FLEXIBLE)	SY	1200
TOPSOIL CLASS A 2"	ACRE	1
REGULAR SEED	LB	272
OVERSEEDING	LB	170
FERTILIZER(15-30-15)	TON	1
LIME	TON	4
CHECK DAM (ROCK) TY. II	EA	6
SILTATION CONTROL EXCAVATION	CY	680
TEMP. FILTER BARRIER	LF	4000
TYPE B CLASS VI PAVE LINE MARKING 6"	LF	4100